DOCUMENT RESUME

ED 180 374 HE 012 111

| | |
|---|---|
| AUTHOR | Ricci, Edmund: Tessaro, Edward |
| TITLE | Medical Direction in Skilled Nursing Facilities. NCHSR Research Summary Series. |
| INSTITUTION | Pittsburgh Univ., Pa. Graduate School of Public Health. |
| SPONS AGENCY | National Center for Health Services Research (DHEW/PHS), Hyattsville, Md. |
| REPORT NO | DHEW-PHS-79-3223 |
| PUB DATE | Aug 79 |
| CONTRACT | 230-75-0213 |
| NOTE | 76p. |
| AVAILABLE FROM | NCHSR, Publications and Information Branch, Room 7-44, 3700 East-West Highway, Hyattsville, MD 20782 |
| EDRS PRICE | MF01/PC04 Plus Postage. |
| DESCRIPTORS | Comparative Statistics: Compliance (Legal): *Federal Regulation: *Geriatrics: Health Facilities: *Health Personnel: Health Services: Laws: *Medical Services: *Nursing Homes: Older Adults: *Physicians: Residential Care |

ABSTRACT

Regulations instituted by the Department of Health, Education, and Welfare effective in 1976 require skilled nursing facilities (SNF) to provide either a physician serving as medical director, or to have an organized medical staff. This report describes how SNFs responded, and what the effects were on their operations. Descriptive data were obtained: (1) indicating the extent to which SNFs fulfilled the requirement, the methods used, and the characteristics of facilities that were unable to comply: (2) characterizing physician, medical directors and their activities; and (3) identifying and describing arrangements for medical direction. A mail/telephone survey was conducted to provide national descriptive data on how SNFs provide medical direction. Site visits were made to 21 facilities to explore--with the administrator, medical director, and nursing director--the behavioral aspects of the implementation of medical direction. Findings suggest that the vast majority of SNFs have provided some form of medical direction: that there has been limited variation in the arrangements for medical direction: that there are a number of barriers to the implementation of this concept: and that the potential exists for the concept of medical direction to be an effective force in improving patient care. (Author/SF)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED180374

NCHSR

RESEARCH SUMMARY SERIES

# Medical Direction in Skilled Nursing Facilities

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

HE 012 111

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Services Research

**National Center for Health Services Research**
**Research Summary Series**

The *Research Summary Series* is published by the National Center for Health Services Research (NCHSR) to provide rapid access to significant results of NCHSR-supported research projects. The series presents executive summaries prepared by investigators. Specific findings are highlighted in a more concise form than in the final report. The *Research Summary Series* is intended for health services administrators, planners, and other research users who require recent findings relevant to immediate problems in health services.

## Abstract

DHEW regulations effective in 1976 require skilled nursing facilities (SNFs) to provide either a physician serving as medical director, or to have an organized medical staff. This report describes how SNFs responded, and what the effects were on their operations. Descriptive data were obtained: (1) indicating the extent to which SNFs fulfilled the requirement, the methods used, and the characteristics of facilities which were unable to comply; (2) characterizing physician, medical directors and their activities; and (3) identifying and describing arrangements for medical direction. A mail/telephone survey was conducted to provide national descriptive data on how SNFs provide medical direction. Site visits were made to 21 facilities to explore, with the administrator, medical director, and nursing director, the behavioral aspects of the implementation of medical direction. Findings suggest that the vast majority of SNFs have provided some form of medical direction; that there has been limited variation in the arrangements for medical direction; that there are a number of barriers to the implementation of this concept; and that the potential exists for the concept of medical direction to be an effective force in improving patient care.

NCHSR

RESEARCH SUMMARY SERIES

# Medical Direction in Skilled Nursing Facilities

University of Pittsburgh
Department of Health Services Administration
Graduate School of Public Health

August 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Services Research

DHEW Publication No. (PHS) 79-3223

This *NCHSR Research Summary* was written by Edmund Ricci, Ph.D., and Edward Tessaro, J.D., Co-principal Investigators of this project at the Graduate School of Public Health, Department of Health Services Administration, University of Pittsburgh. William Summer, Ph.D., served as Project Director, together with Martha Skoner, Ph.D., Research Coordinator; Hilda Kroeger, M.D., MPH, Medical Consultant; Coralea N. Lapenas, Associate Project Director; and James Nesbitt, Principal Research Assistant. Vivian Henderson, M.S., of the Department of Biostatistics at the University of Pittsburgh, provided invaluable statistical consultation. This research was supported under contract HRA 230-75-0213 from the National Center for Health Services Research.

The more detailed final report, *Study of Medical Direction in Skilled Nursing Facilities*, may be purchased from the National Technical Information Services, Springfield, VA 22161 (tel.: 703/557-4650) (both in paper and in microfiche), 368 p., order number PB 284 496.

NCHSR publications are available on request from NCHSR, Publications and Information Branch, Room 7-44, 3700 East-West Highway, Hyattsville, MD 20782 (tel.: 301/436-8970). Current NCHSR publications are listed in the back of this publication.

Library of Congress Catalog No. 79-600100

The views expressed in this publication are those of the authors, and no official endorsement by the National Center for Health Services Research is intended or should be inferred.

## Acknowledgment

The authors would like to acknowledge the support and guidance received by the members of the Governmental and Nongovernmental Advisory Committees. Their contribution to the research effort has been substantial and we feel most fortunate to have had the opportunity to draw upon their technical and substantive experience and knowledge.

Members of Governmental and Nongovernmental Advisory Committee

Carl Adams, M.D.
Murfreesboro, Tennessee

Raymond Benach, M.D.
Silver Spring, Maryland

Herman Gruber
Chicago, Illinois

Mary Francis Hilton
Rockville, Maryland

Stanley Ingman, Ph.D.
Farmington, Connecticut

Jerone Kaplan, Ph.D.
Mansfield, Ohio

Ben Latt
Rockville, Maryland

Ian Lawson, M.D.
Hartford, Connecticut

Ruth Logsdon
Rockville, Maryland

Ira Robbins, ACSW
Richmond, Virginia

Claire Ryder, M.D.
Rockville, Maryland

Sister Marilyn Schwab, MSN
Mount Angel, Oregon

Jerry Solon, Ph.D.
Bethesda, Maryland

K. Mary Straub, Ph.D.
Rockville, Maryland

Joan Van Nostrand
Rockville, Maryland

Michael Werckle, M.D.
Springfield, Illinois

## Foreword

Recognizing the continuing concern of the American people for quality medical care for their elderly, the Federal Government in 1974 proposed regulations to require skilled nursing facilities (SNFs) to provide medical direction for their staffs. This report describes the first in-depth examination of how SNFs responded to that requirement. The findings indicate that the vast majority of the facilities reacted in a positive manner. Various models for providing medical direction were identified and all appear to have the potential for being an effective force in improving patient care. This report will be of interest to those responsible for providing, financing, and overseeing the medical care provided to the elderly. It is to be hoped that this favorable response to Federal regulation is a harbinger of even greater attention in the future to the medical and social needs of the aged.

Gerald Rosenthal, Ph.D.
Director

August 1979

## Contents


1 Introduction

6 Purpose and objectives of the research

7 Research methods

Overview of methodology

National survey

12 Case study methods and selection procedures

16 Results

Medical direction; national descriptive data

32 Model study results

47 Summary commentary and recommendations

Summary comments

49 Recommendations

53 Appendices

Plan for data aggregation and weighting

58 Characteristics of facilities selected for inclusion in model study

61 Tables

63 Figures

## Introduction

Prior to 1965, the nursing home was characterized by some as being "a program isolated from community health resources."[1] In this period, nursing homes acted individually in their arrangement of contractual agreements with consultant health professionals, physicians for utilization review activities, and hospitals offering transfer agreements. In the years following 1965, with the development of the Medicare and Medicaid legislation which provided reimbursement for the health care of long-term patients, a large number of new nursing homes were established throughout the United States. As often is the case, when tax revenue is expended in new sectors of the economy, public interest and concern follow the determination of the "proper" application of monies. Critical evaluations of institutionalized care given to the aging patient became the concern of many organized groups of legislators, providers, families and guardians of nursing home residents. The following recommendation of the Commission on Chronic Illness in 1965 is an example of such concern:

> No single agency in any community can meet all of the complex needs of the long-term patient, yet without some central organization concerned with those needs, gaps and overlaps in long-term care are almost inevitable. The task of such a central agency is formidable because of the wide range in the needs of long-term patients, the multiplicity of ways through which care is financed, conflicting interests and pressures, the existence of outmoded facilities, and other factors. But the formidable nature of the task is matched by the urgency of need in every community.[2]

It was further recommended by this commission that ". . . care of the chronically ill is inseparable from general medical care. While it presents certain special aspects, it cannot be medically isolated without running serious dangers of deterioration of quality of care and medical stagnation."[3]

Following such concern over the quality of care, and the need for unified direction and control over the variety of medically related activities occurring

---

[1] Latt, Benjamin. "The Greater Neglect: Administrative Medicine in the Long-Term Care Facility" in *The Medical Director in the Long-Term Care Facility*, published by the American Medical Association, 1977 p. 74.

[2] Ibid., p. 75.

[3] Ibid., p. 75.

in the daily operation of nursing homes, state associations of the American Medical Association, welfare agencies, medical centers, community hospital facilities and university-based medical school physician groups embarked on attempts to develop a model or process by which such activities could best be administered. Throughout the remainder of the 1960's and into the first few years of the 1970's, public attention was given to the products of this activity, for example: the medical staff equivalent concept, health insurance plans providing comprehensive medical services to welfare clients; medical center medical-team supervision of care of nursing home residents; community based medical teams providing services in nursing homes; and, medical advisory committees.

Also established during this period was the Association of Nursing Home Physicians which held its first meeting in April, 1967, in Baltimore, Maryland. Following an election of a Board of Directors, officers were elected and a constitution was drafted. A passage from this constitution outlining the purposes of the association serves as another example of public concerns during this period of time:

> These purposes are as follows: "To further the general health of the chronically ill and/or aged through the acquisition, dissemination, and exchange of useful and accurate knowledge regarding the medical management and treatment of such individuals, and to undertake in their interest such activities as will improve the welfare of these people. To these ends it is the purpose of this Association to permit and encourage similar local and state associations to become affiliated with it, and to promote among physicians the free exchange of knowledge in respect to this subject; to improve the standards of treatment of nursing home residents, to develop methods of medical care acceptable to this Association." [4]

The Executive Committee of the Association of Nursing Home Physicians began to meet on a monthly basis and continued to discuss the concept of "medical direction," the role of a "medical director," and this function in relationship to the nursing home administrators and staff. Members of this Association also served on various statewide committees concerned with problems of the aging and chronically ill, and, through their activities, the concept of medical direction began to receive even greater attention.

In early 1972, the medical director concept was accepted by several national groups as an important step in the attempt to improve the quality of care in nursing homes. Means to accomplish medical direction were attempted, as mentioned earlier, through various individual and group arrangements. At this same time, a unification of Medicare and Medicaid standards for "skilled nursing care" led to drafts of new regulations requir-

[4] Gladue, J. Raymond. "Evolution of the Medical Director Concept" in *The Medical Director in the Long-Term Care Facility*, published by the American Medical Association, 1977, p. 3.

ing skilled nursing facilities to have either a medical director or an organized medical staff. Spokesmen for the American Medical Association, the American Geriatrics Society, the American Association of Nursing Home Physicians, and others, testified in favor of this requirement, but it was not included in the final regulations issued January 17, 1974. However, on May 1, 1974, the *Federal Register* carried a "Notice of Proposed Rule Making: Condition of Participation 405.1138" which proposed that medical direction for each skilled nursing facility be provided by a physician who would serve as medical director. This proposed regulation was modified and finalized as 405.1122, as announced in the *Federal Register*, Vol. 39, No. 193, October 3, 1974, effective January 2, 1976. Excerpts from this *Federal Register* follow:

"405.1121 . . .

"(1) *Standard: Patient care policies.* The skilled nursing facility has written patient care policies to govern the continuing skilled nursing care and related medical or other services provided.

"(1) The facility has policies, which are developed by the medical director or the organized medical staff (see 405.1122), with the advice of (and with provision for review of such policies from time to time, but at least annually, by) a group of professional personnel including one or more physicians and one or more registered nurses, to govern the skilled nursing care and related medical or other services it provides. The policies which are available to admitting physicians, sponsoring agencies, patients, and the public, reflect awareness of, and provision for, meeting the total medical and psychosocial needs of patients, including admission, transfer, and discharge planning; and the range of service available to patients, including frequency of physician visits by each category of patients admitted. These policies also include provisions to protect patients' personal and property rights. Medical records and minutes of staff and committee meetings reflect that patient care is being rendered in accordance with the written patient care policies, and that utilization review committee recommendations regarding the policies are reviewed and necessary steps taken to ensure complicance.

"(2) The medical director or a registered nurse is designated, in writing, to be responsible for the execution of patient care policies. If the responsibility for day-to-day execution of patient care policies has been delegated to a registered nurse, the medical director serves as the advisory physician from whom she receives medical guidance. (See 405.1122 (b).)

3. A new 405.1122 is added to read as follows:

"405.1122 Condition of participation—medical direction.

"The facility retains, effective not later than 12 full calendar months from December 2, 1974, pursuant to a written agreement, a physician, licensed under State law to practice medicine or osteopathy, to serve as medical director on a part-time or full-time basis as is appropriate for the needs of the patients and the facility. If the facility has an organized medical staff, the medical director is designated by the medical staff with approval of the

governing body. A medical director may be designated for a single facility or multiple facilities through arrangements with a group of physicians, a local medical society, a hospital medical staff, or through another similar arrangement. The medical director is responsible for the overall coordination of the medical care in the facility to ensure the adequacy and appropriateness of the medical services provided to patients and to maintain surveillance of the health status of employees. (See 405.1911(b) regarding waiver of the requirement for a medical director.)

"(a) *Standard: Coordination of medical care.* Medical direction and coordination of medical care in the facility are provided by a medical director. The medical director is responsible for the development of written bylaws, rules, and regulations which are approved by the governing body and include delineation of the responsibilities of attending physicians. Coordination of medical care includes liaison with attending physicians to ensure their writing orders promptly upon admission of a patient, and periodic evaluation of the adequacy and appropriateness of health professional and supportive staff and services.

"(b) *Standard: Responsibilities to the facility.* The medical director is responsible for surveillance of the health status of the facility's employees. Incidents and accidents that occur on the premises are reviewed by the medical director to identify hazards to health and safety. The administrator is given appropriate information to help ensure a safe and sanitary environment for patients and personnel. The medical director is responsible for the execution of patient care policies in accordance with 405.1121 (1).

"405.1911 . . .

"(b) *Waiver of medical director requirement.* To the extent that 405.1122 requires any skilled nursing facility to engage the services of a medical director either part-time or full-time, the Secretary may waive such requirement for such periods as he deems appropriate if, based upon documented findings of the State agency, he determines that:

"(1) Such facility is located in an area where the supply of physicians is not sufficient to permit compliance with this requirement without seriously reducing the availability of physician services within the area, and

"(2) Such facility has made and continues to make a good faith effort to comply with 405.1122, but such compliance is impeded by the unavailability of physicians in the area."

Since the announcement of the "Condition of Participation," a number of varied opinions have appeared in professional journal articles concerning the role of the medical director and the administrative alternatives for the management of this activity. Of concern to many is the potential threat such a role may present to existing administrative structures and processes in skilled nursing homes. To others, the mere existence of such a title and person seems to ensure that an improvement will be seen in the quality of care rendered by these facilities. Some health care professionals believe that the medical director will lead to improved relationships among all attending

physicians, and, subsequently, to all those providing care to residents in the facility.

The points of view vary with respect to the effect of this regulation upon the skilled nursing facility in general, and upon the administrator, the director of nursing, attending physicians, staff and residents in particular. Whether one approaches medical direction from a clinical, administrative, legal, financial, or moral standpoint, the question remains as to the alternative models to be selected in order to effectuate medical direction in the most appropriate manner, given a variety of different conditions. To investigate this question, Contract HRA 230-75-0213 was awarded to the Graduate School of Public Health at the University of Pittsburgh on July 1, 1975. The results of this extensive study, conducted by an interdisciplinary team of researchers, are presented in the remaining sections of this report.

## Purpose and objectives of the research

The most general *purpose* of this study was to describe the manner in which nursing homes that provide skilled care[1] responded to the Federal requirement for medical direction.[2] The specific *objectives* that guided the research follow:

A. To design and conduct a survey of certified skilled nursing facilities in the United States in order to obtain descriptive data indicating: (1) the extent to which they fulfilled the requirement to provide medical direction; (2) the methods used to provide medical direction, and (3) characteristics of facilities that were unable to fulfill the Federal requirement for medical direction.

B. To characterize those physicians who serve as medical directors and to describe their activities.

C. To identify and describe in detail the various arrangements for medical direction (models) which have been developed and employed by skilled nursing facilities.

---

[1] In this research a "skilled nursing facility" has been defined as an institution or distinct part of an institution which is primarily engaged in providing skilled nursing care and related services to inpatients. Such an institution has in effect a transfer agreement with one or more participating hospitals and meets the requirements for State licensure. The term skilled nursing facility does *not* include any institution which is primarily for the care and treatment of mental diseases or tuberculosis.

[2] As established in the Federal regulations, the medical director may be designated for a single facility or a group of facilities and may be engaged on full or part-time basis. Medical direction may be carried out through a variety of arrangements, e.g., an agreement with an individual physician, a group of physicians, a hospital medical staff, a local medical society, or other similar arrangements. The medical director is responsible for the overall coordination of the medical care in the facility to ensure that the care is adequate and appropriate. In addition he/she is responsible for developing methods to maintain surveillance of the health status of employees. He/she may or may not attend patients in the facility being served as medical director.

## Research methods

### Overview of methodology

**General approach.** Two data collection efforts were required to meet the objectives of this study. A systematic mail/telephone survey (called the "national survey") was designed and conducted to provide national descriptive data relative to the manner in which skilled nursing facilities responded to the requirement that they provide for medical direction. Secondly, 21 facilities were identified and visited by project staff, in order to explore through indepth discussions with the administrator, medical director and nursing director, the behavioral aspects of the implementation of the concept of medical direction. This aspect was called the "model study."

**Integration of field and survey research.** The national survey and the model study were highly interrelated on both a methodological and on a conceptual level. Figure 1 is a chart listing the major variables addressed in the study showing the source of data for each and the postulated relationships among them. They represent the major environmental, organizational and personal factors which affect the formal arrangement for medical direction and the actual behavior of those who are involved in providing medical direction.

The analysis of data from the national survey was greatly enhanced by the knowledge gained through conducting the field visits, since the staff became more sensitive to the areas in which the questions were adequate as well as limited. On the other hand, the national survey data provide a basis for determining the extent to which the case study material is like or unlike the experience of the totality of facilities in the U.S.

### National survey

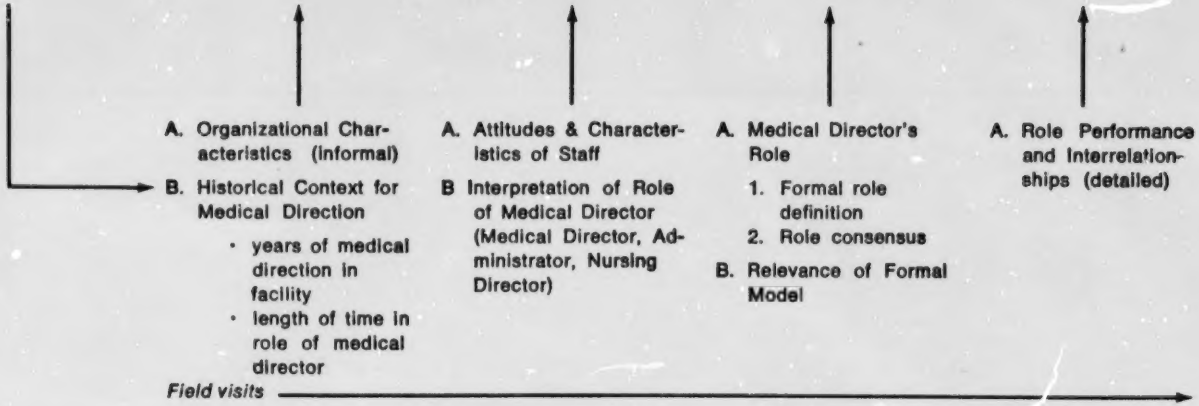
**Questionnaire development.** Three questionnaires were developed for each skilled nursing facility in the study sample: one for the administrator, one

∞

**Figure 1**
**Major study variables and primary source of data**

*Survey*

| *Preconditions* | *Independent* | *Intervening* | *Dependent* | *Consequent* |
|---|---|---|---|---|
| A. Federal Policy and Legislation | A. Organizational Characteristics (formal) | A. Characteristics of Staff | A. Compliance—*Extent* | |
| B. Federal Regulations | 1. Operating Environment | · demographic, medical, professional | 1. Number in/not in compliance | |
| C. Social & Cultural factors concerning long term care (e.g., cultural values re: geriatric pop.; models of care) | · location, type of facility, ownership, health resources. | B. Characteristics of Patients | . degrees of compliance | |
| | 2. Internal Environment | · demographic, health status, relevant personal characteristics | B. Compliance—*Nature* | |
| | · structure | C. Medical Director's definition of role | 1. *Models* of working arrangements for medical director | |
| | · process (input, conversion, output) | D. Administrator's definition of medical director role | 2. Medical director *role* | |
| | · resources (staff) | E. Nursing Director's definition of medical director's role | · demographic & professional characteristics of medical director. | |
| | B. Motivation for model selected | | · formal role definition | |
| | · anticipation of problem resolution | | C. Non-Compliance | |
| | C. Availability of physicians (medical director) | | 1. Reasons for | |


A. Organizational Characteristics (informal)
B. Historical Context for Medical Direction
· years of medical direction in facility
· length of time in role of medical director
A. Attitudes & Characteristics of Staff
B Interpretation of Role of Medical Director (Medical Director, Administrator, Nursing Director)
A. Medical Director's Role
1. Formal role definition
2. Role consensus
B. Relevance of Formal Model
A. Role Performance and Interrelationships (detailed)
Field visits

for the medical director, and one for the nursing director in the facility. The administrator's questionnaire was the most detailed of the three instruments and provided the majority of the information needed to meet the objectives of the study. The questionnaires completed by the medical and nursing directors were developed to probe the respondent's perception about the performance of the role of the medical director and his/her actual involvement in providing medical direction.

**Sampling of facilities and design of the sample.** The study population consisted of all nursing homes in the United States which were certified under the Medicare-Medicaid programs to provide skilled nursing care. A listing of such facilities is the Long Term Care-Management Information System (LTC-MIS) prepared by the Social Security Administration as a product of the Medicare-Medicaid certification survey visits. This listing was used as a sampling frame.

The skilled nursing facilities were stratified by State and every other facility within each State was selected for inclusion in the sample. In States having fewer than 50 skilled facilities, all skilled nursing homes were included in the sample States. The LTC-MIS contained 7,111 skilled nursing facilities. Our original sampling activity created a sample of 3,794[1] facilities or 53.3 percent of the total number of Medicare-Medicaid certified skilled nursing facilities in the United States.

The sampling plan employed in this study was based upon the requirement that data be generated to permit State level description and analysis should such be called for in the future. This requirement led to the decision to create a rather large sample and to include all facilities in States having fewer than 50 skilled nursing homes, thereby providing a sufficient number of cases to permit State level description and cross tabular analysis if required.

**Administration of questionnaire and follow-up.** Questionnaires were mailed in the fall of 1976 to facilities providing skilled nursing care. Three reminders were mailed to encourage response from nonrespondents. The first reminder was a postcard; the second follow-up was a letter with a complete set of questionnaires; the third follow-up was accomplished with a postcard.

The response to the mail survey was somewhat limited (29.1 percent) although sufficient cases were generated to permit a preliminary assessment, on a national level, of the activity of skilled nursing facilities with regard to medical direction.

---

[1] The sample was reduced to 3,338; as contacts were made with facilities, a number were eliminated from the study for various reasons. The most common reasons for elimination were: (a) facilities had permanently closed; (b) facilities were no longer certified as skilled facilities.

**Telephone survey.** While the administrator response to the mail survey provided some indication of the manner in which skilled nursing facilities were reacting to the requirement for medical direction, the overall response rate was not sufficient to support the publication of national descriptive data. Therefore, in order to supplement the mail survey a second national survey was conducted by telephone.

The telephone survey was based upon a probability sample, again stratified by State, of 50 percent of the nonrespondents to the mail survey; 1,298 facilities were included. Administrators in 1,298 facilities were contacted by telephone in the spring of 1977 and asked to respond verbally to the questionnaire originally forwarded to them during the mail survey.

The administrators were highly cooperative and seemed to prefer the telephone modality. The response to the telephone survey was 92.7 percent, yielding 1,204 additional administrator questionnaires.

The skilled nursing facility administrators were asked to speak with their medical and nursing directors in our behalf to encourage them to complete and return the questionnaires that had previously been sent. Contract limitations in both time and money precluded surveying medical and nursing directors by telephone.

**Data aggregation and weighting.** The sampling design employed in this study resulted in the development of a data base that included all skilled nursing facilities in States having 50 or fewer facilities (22 States). We thus had data for virtually the total population of skilled nursing facilities in these States after combining the mail and telephone survey responses. As noted above, in those States having more than 50 facilities a fifty percent sample was drawn.

It was therefore decided to report population estimates rather than sample data for the administrator responses. The population estimates were developed through the application of a weighting plan which is described in detail in Appendix A. Most of the information presented in this report was obtained from the administrator survey and from the model study.

Data obtained from the medical and nursing director questionnaires were not weighted and should be viewed as suggestive due to the lower response from these two groups. While the data we report hold for a large number of practicing medical and nursing directors, we cannot, at this time, provide any quantitative estimates of the extent to which our data actually represent the total population of medical and nursing directors in skilled nursing facilities. For these groups sample data rather than population estimates are provided.

The total number of cases, i.e., those who answered a particular item *plus* those who did not (missing cases), equals the population total of 6623; in

some tables, N=6624 due to an SPSS rounding procedure. The "valid" number of cases, i.e., those who answered a particular item, will equal 6623 (or 6624) *only if every* respondent answered that item. In other words, we chose not to assume a similar distribution of missing respondents (no answer) to that of the actual responses within any one subgroup for any one item. If we had used that assumption, there would be no missing cases in the tables and the "valid" number of cases would always equal 6623 (or 6624).

### Case study methods and selection procedures

**Overview.** This phase of the study consisted of two-day site visits to 21 skilled nursing facilities that were selected on the basis of the following criteria: type of medical direction arrangement, size, ownership and location of the facility. Indepth interviews were conducted by two members of the research staff with the administrator, medical director and nursing director in the facility. These onsite visits provided an opportunity to examine the interrelationships of formal and informal structural and organizational variables relative to medical direction in the facility.

**Analysis of the medical director's formal relationship to the facility.** The language within the "Scope of Work" requiring the researchers to get "in-depth descriptive information" indicated that the site visits should include the analysis of any information essential to a complete understanding of the arrangement for medical direction. Accordingly, the staff requested and received copies of certain documents from the participating facilities, including the organization chart, medical director's contract with the facility, and medical director's job description.

During the initial interview with the administrator, the documents were used as the basis for beginning the discussion about the medical director's role in the facility. Later, the documents were compared for consistency.

The contractual agreement between the facility and the medical director was reviewed to identify the sponsoring agent, the scope of responsibilities and authority prescribed or proscribed, compensation, term of the contract, insurance provision, substitute medical director provisions, the mechanism for review of the medical director's performance, and termination of the contract. Facility personnel were asked about the development of the documents in order to determine whether they were bargained for, developed in-house, and/or reviewed by counsel to the facility.

When an interviewee referred to a document which related to the medical director's role, the site visitors requested permission to review it and often

obtained copies for inclusion in the case study report. Examples of such documents include administrator job descriptions, admission criteria, discharge policies, utilization review committee meeting minutes, director of nursing job descriptions, medical staff bylaws, rules and regulations, and standing orders.

**Analysis of the medical director's working relationships.** The research group hypothesized that the medical directorship would be effectuated through relationships which the medical director would have with the facility, the facility's employees, the attending physicians, the patients, and the community. An analysis of the "Conditions of Participation on Medical Direction" and the American Medical Association "Guidelines on Medical Direction" revealed the types of activity to which a medical director should appropriately direct his/her attention. The interviewers focused their attention on these activities as they attempted to investigate the relationships between the facility personnel and the medical director, and the behavior of each individual. During the semi-structured sessions, the interviewers explored which medical direction functions were being performed, by whom they were being performed, and how the internal structure of the facility related to the medical director's role. As the discussions progressed, various patterns of behavior emerged that permitted the visitors to pose hypothetical problems for the interviewees. The detailed questioning about the arrangement revealed many of its effects on the facility, and the interviewers concluded the sessions with inquiries about the perceived benefits and problems of the arrangement.

**Preparation for and the timing of the interviews.** After a date had been set for the site visit, the project staff mailed copies of the administrator, director of nursing, and medical director questionnaires (developed for the nationwide survey of facilities) to the administrator with a letter asking that they be returned to the researchers before the visit to the facility. These completed questionnaires, along with other demographic information about the facility, physician population, other health care facilities, and the community provided the site visitors with background information for the interviews. Two project staff members visited each of the facilities, spending a total of eight hours in the facility over a two-day period.

A schedule for the interviews was generally followed, although some variations were necessitated by factors such as demands upon the medical director or travel arrangements for the project staff personnel. According to the schedule, both site visitors met initially with the administrator in order to assure him/her that the information garnered from the visit would be treated

in a confidential manner, acquaint him/her with the study and its goals, and then to begin to discuss the activities and structure of the facility and to review the formal arrangement for medical direction (e.g., the contract, job description, and organization chart). Later on the first afternoon one site visitor met with the director of nursing, while the other visitor met with the administrator, in order to explore their individual working relationships with the medical director.

After the first day of interviews, the project staff members met to frame the issues for consideration during the second day of the visit. An analysis of the documents received from the facility was conducted so that any questions or problems could be raised with facility personnel during the interviews on the second day. The appointment for the medical director's interview was scheduled for the second day so that site visitors would have an opportunity to familiarize themselves with the formal arrangement, the facility, and the administrator and director of nursing and in this way, maximize his/her time. The visits to a facility always included a tour of the patient care, recreational, and service areas.

**Case study report preparation.** The information from the site visits was written into a narrative report that was organized according to the following topics: the facility's environmental and organizational characteristics; the role set interaction among the administrator, director of nursing, and the medical director; the history of medical direction in the facility; the formal model for medical direction; and informal relations between the medical director and the other physicians, the administrator, and the director of nursing. The staff members who made the site visit collaborated on the final report of the visit which contained no reference to the facility by name.

The research staff developed summary statements about the medical director's scope of practice in regard to the "Conditions of Participation on Medical Direction" by conducting structured post-site visit interviews with the site visitors.

**Selection of facilities for model study.** The process by which facilities were selected for the model study was highly involved and required a separate substudy to complete. A summary of the methodology used to select facilities for indepth case analysis follows.

The contract under which this research was conducted required the research group to develop descriptive models of various working arrangements for medical direction in skilled nursing facilities. There was a further requirement that a method be developed for identifying facilities with medical direction, that are viewed as "superior" and which represent a variety of working arrangements, size, ownership and demographic characteristics.

The selection procedure began with the solicitation of names of "superior" facilities with quality medical directorships from the HEW Regional long-term care directors. Eight directors nominated a total of eighty-seven (87) facilities to the project staff. Next, all members of the Non-Governmental Advisory Committee and selected members of the Governmental Advisory Committee were contacted for facility nominees. Thirty-nine (39) facilities were recommended by eight Non-Governmental Committee members, and seventeen (17) were suggested by the Governmental Committee members who were contacted.

The staff analyzed all available information on this total group of 143 facilities that had been recommended, and categorized the facilities according to the type of medical direction model, size, control, and location. The elimination of facilities with duplicate characteristics resulted in a group consisting of seventy-two (72) facilities. The administrator of each facility was surveyed by telephone in order to verify the information about the characteristics of the facility and the medical directorship, and to determine whether the facility would be willing to host a site visit.

Finally, the staff reviewed the file on each of the facilities falling within a given category (e.g., large/urban/non-profit facilities), and selected the homes which would represent the diversity of medical direction arrangements existing within that category. After the site visits were underway, other unique arrangements came to the attention of the staff which resulted in some substitutions among the original group.

The above is a brief overview of a process that required two surveys (one mail and one telephone) and several systematic screening and sorting operations to complete.

In Appendix B we have summarized the characteristics of facilities selected for inclusion in the model study in order to illustrate the variety of environmental, organizational and medical direction characteristics which were examined.

## Results

### Medical direction; national descriptive data

**Characteristics of facilities providing skilled nursing care in the United States.** In this first section of the presentation of results, population estimates describing skilled nursing facilities in the United States are presented as context within which the structure and operation of the medical direction program can be considered.

The population of skilled nursing facilities are roughly evenly distributed geographically. Of the facilities represented in this study, 34.7 percent are located in urban areas, 35.5 percent in semi-urban areas and 29.8 percent are in rural areas.[1]

As indicated in Table 1, the majority (68.3 percent) of facilities are "for profit" (tax paying); the second largest group (21.7 percent) are "not-for-profit, nongovernmental." State and local governmental facilities account for 10.0 percent of the total.

**Table 1. The distribution of skilled nursing facilities by type of ownership**

| Ownership | Facilities | | |
|---|---|---|---|
| | Number | Percent | |
| Total | 6615 | 100.0 | |
| For-profit, tax, paying | 4515 | 68.3 | p = .683; SE = .009 * |
| Not-for-profit, nongovernmental | 1436 | 21.7 | p = .217; SE = .0079 |
| Government (State and Local) | 664 | 10.0 | p = 0.1; SE = .0058 |

Missing Cases = 8

* An explantion of "p" values and standard errors is shown on page 77.

[1] For the purpose of this study an urban area is defined as a city having a population of 100,000 or more and its suburbs; a semi-urban area includes a population center of 10,000-100,000 and its suburbs; a rural location includes areas having fewer than 10,000 persons.

The "for-profit" facility is most likely to be in an urban or semi-urban area, while the "governmental" and the "not-for-profit, non-governmental facility" is most likely to be located in a rural area. (Refer to Table 2.)

**Table 2. The distribution of skilled nursing facilities by ownership and geographic location (N = 6596)**

| *Geographic location* | *For profit* | | *Not for profit nongovernment* | | *Government* | | *Total* | |
|---|---|---|---|---|---|---|---|---|
| | *Number* | *Percent* | *Number* | *Percent* | *Number* | *Percent* | *Number* | *Percent* |
| Urban .... | 1707 | 74.7 | 490 | 21.5 | 88 | 3.9 | 2286 | 100.0 |
| Semi-urban | 1759 | 75.0 | 415 | 17.7 | 173 | 7.4 | 2347 | 100.0 |
| Rural .... | 1030 | 52.5 | 530 | 27.0 | 403 | 20.5 | 1963 | 100.0 |

Missing Cases = 17

The single free-standing unit is the most common form of organization (63.7 percent); however, groups of two-four facilities (11.7 percent) and chain organizations which involve more than four facilities are not uncommon (23.9 percent). (Refer to Table 3.)

**Table 3. The distribution of skilled nursing facilities according to single, group or chain affiliation**

| *Type of Affiliation* | *Facilities* | | |
|---|---|---|---|
| | *Number* | *Percent* | |
| Total ..... | 6553 | 100.0 | |
| Single ..... | 4176 | 63.7 | p = .638; SE = .0096 |
| One of a group (of 2 to 4) ..... | 770 | 11.7 | p = .117; SE = .0064 |
| One of a chain (more than 4) ..... | 1568 | 23.9 | p = .238; SE = .0086 |
| Other * ..... | 40 | 0.6 | p = .007; SE = .0014 |

Missing Cases = 70

* This category includes facilities which are components of larger facilities such as a hospital or mental health center.

As a group, facilities providing skilled nursing care are relatively young organizations. The vast majority (91.1 percent) began operation after 1940; a large number (50.3 percent) began serving clients after 1965. (Refer to Table 4.)

**Table 4. The distribution of skilled nursing facilities by the year the facilities first admitted patients/residents to any level of care**

| Year | Facilities | |
|---|---|---|
| | Number | Percent |
| Total | 6330 | 100.0 |
| <1800-1899 | 172 | 2.7 |
| 1900-1940 | 389 | 6.1 |
| 1941-1965 | 2584 | 40.8 |
| 1966-1970 | 2038 | 32.2 |
| 1971-1976 | 1147 | 18.1 |

Missing Cases = 293

The total number of beds in skilled nursing facilities range from fewer than 50 to more than 200; however, most commonly these organizations fall within the ranges of 50-99 beds (38.3 percent) and 100-199 beds (39.2 percent). (Refer to Table 5.)

**Table 5. The distribution of skilled nursing facilities by the total number of beds in the facility**

| Number of beds | Facilities | |
|---|---|---|
| | Number | Percent |
| Total | 6569 | 100.0 |
| 1-49 | 687 | 10.5 |
| 50-99 | 2517 | 38.3 |
| 100-199 | 2576 | 39.2 |
| 200 and | 879 | 12.0 |

Missing Cases = 54
Population Mean* = 116.32; SE = 1.6275

* Excludes six cases with over 1,000 beds.

The number of skilled beds in any one facility tends to vary with the ownership. Facilities having fewer than fifty skilled beds are most commonly "not-for-profit, nongovernmental" and "governmental" facilities. Facilities having between 50 and 199 beds are most commonly "for-profit," while facilities with 200 or more beds are most often "governmental."

It is common for nursing home facilities to provide more than one level of care. Next to skilled care, intermediate care is most frequently provided (32.5 percent of the facilities report having an intermediate care level). Fewer than ten percent (8.2 percent) of these multilevel facilities provide

residential care, while 8.7 percent are extended care units of hospitals. (Refer to Table 6.)

**Table 6. The percent distribution of skilled nursing facilities by levels of care provided (N = 6623)**

| Levels of care | Facility provides | | | | |
|---|---|---|---|---|---|
| | Yes | No | Total | Missing cases | |
| | Percent | Percent | Percent | Number | |
| Skilled* | 100.0 | 0 | 100.0 | 11 | |
| Intermediate | 32.5 | 67.5 | 100.0 | 3 | p = .354; SE = .0091 |
| Residential | 8.2 | 91.8 | 100.0 | 5 | p = .092; SE = .0051 |
| Acute Care | 8.7 | 91.3 | 100.0 | 1 | p = .093; SE = .0055 |

* This category includes facilities with beds which are certified as skilled only (84.2 per cent) and facilities with beds that are dually certified as skilled or intermediate (.15 per cent).

As expected, skilled nursing facilities are primarily serving patients who range from 65 to 80 years of age. It is of interest to note that while there are fewer patients under age 65, approximately three quarters of the facilities serve patients below this age.

Facilities offering skilled nursing care are typically served by more than one physician; however, the number of physicians involved with any one facility is not large, falling within the range of 1-25 (81.1 percent), excluding the medical director. In 5.2 percent of facilities, the medical director is the sole attending physician, while in 13.6 percent of facilities, more than 25 physicians attend patients in the facility. (Refer to Table 7.)

**Table 7. The distribution of skilled nursing facilities by the number of attending and staff physicians rendering care to skilled nursing patients in the facility**

| Number of physicians | Facilities | |
|---|---|---|
| | Number | Percent |
| Total | 6088 | 100.0 |
| None | 318 | 5.2 |
| 1-25 | 4939 | 81.1 |
| 26-50 | 623 | 10.2 |
| 51-75 | 104 | 1.7 |
| >75 | 103 | 1.7 |

Missing Cases = 535
Population Mean = 13.8883; SE = .3755

* Excludes medical director

Typically, medical staffs in skilled nursing facilities are not formally organized (49.7 percent). However, almost a third of these facilities have developed written bylaws, rules and regulations delineating physician conduct (30.6 percent) and about one in five have formally organized medical staffs (19.7 percent). (Refer to Table 8.)

It is relatively common for patients in skilled nursing facilities to participate in formally organized committees. More than one-half (59.5 percent) of the facilities report having a patient organization. Slightly over one-half (51.9 percent) of the facilities invite patients to participate in organized committee meetings (e.g., meetings specifically for patients, such as a residents council or staff committees such as infection control and safety).

**Table 8. The distribution of skilled nursing facilities by the type of medical staff organization**

| Organization plan | Facilities | | |
|---|---|---|---|
| | Number | Percent | |
| Total | 6432 | 100.0 | |
| One physician | 269 | 4.2 | p = .046; SE = .0038 |
| Individual physicians act on their own | 2926 | 45.5 | p = .456; SE = .0100 |
| Medical staff bylaws, rules and regulations | 1968 | 30.6 | p = .289; SE = .0094 |
| Fully organized medical staff | 1269 | 19.7 | p = .209; SE = .0079 |

Missing Cases = 191

In summary, the surveyed skilled nursing facilities are evenly distributed throughout rural and urban areas, are typically "for profit" single units, relatively new organizations, and range in size from 50-200 beds. It is common for nursing homes to provide more than one level of care and to serve all age groups although the majority of patients are over age 65. The most prevalent arrangement for providing medical care to patients involves more than one attending physician, and some formal physician and patient organization is not uncommon. We believe the above adequately characterizes skilled nursing facilities in the United States.

**The response to the federal requirement for medical direction.** The survey indicates that facilities providing skilled care have complied with the Federal requirement for medical direction. As many as 98.9 percent of the facilities which responded to this question have one or several physicians answering to the title of "medical director," but it is difficult to determine

how many of these actually assume all of the designated responsibilities listed in the Federal mandate. Only a small number (less than 1 percent) anticipate difficulty complying with the requirements and have taken or plan to take steps to obtain a waiver or change the level of certification. (Refer to Table 9.)

**Table 9. The distribution of skilled nursing facilities by the extent to which the facilities have provided for medical direction (N = 6623)***

| Extent of medical direction | Facilities | | Missing cases | |
|---|---|---|---|---|
| | Number | Percent | | |
| Have had Medical Director for > 1 year | 5532 | 80.8 | 25 | p = .775; SE = .0065 |
| Obtained Medical Director within last year | 1196 | 18.1 | 25 | p = .232; SE = .0063 |
| Will have Medical Director within next six months | 81 | 1.2 | 25 | p = .017; SE = .0016 |
| No Medical Director within six months | 15 | 0.2 | 25 | p = .003; SE = .0019 |
| Plan to seek waiver | 18 | 0.3 | 25 | p = .003; SE = .0008 |
| Waiver obtained | 11 | 0.2 | 25 | p = .002; SE = .0004 |
| Plan to change level of certification | 10 | 0.2 | 25 | p = .001; SE = .0008 |
| Other | 47 | 0.7 | 25 | p = .01; SE = .0013 |

* This table includes multiple responses.

**Characteristics of facilities seeking or having obtained a waiver.**** Our population estimates suggest that approximately 28 facilities have requested a waiver for the requirement of medical direction; these are described as follows:

a. *Location:* A majority (71.4 percent) of these 28 facilities are located in rural areas. The percentage is greater than the percentage of facilities in the total sample which are located in rural areas.

b. *Ownership:* Of the 23 facilities, almost three quarters (21) are "not-for-profit." This distribution differs from the total sample in which the distribution of "not-for-profit" facilities is less than "for profit" facilities.

c. *Sources of payment for patients:* In facilities requesting a waiver, Medicaid is the major source of payment (over two-thirds of the facilities in this group (20) receive Medicaid funds for three to five, or more, patients). Self-pay is the only other predominant payment source for patients in these facilities, with 21-40 percent of patients being the largest concentration using

** Estimates will vary between 28 and 29, an SPSS rounding procedure.

this payment mode. Medicare is an insignificant source of payment in these facilities.

d. *Bed size:* The bed size of the facilities requesting waivers varies from fewer than 50 to 199 beds. The largest number of facilities (44.7 percent) have between 100 and 199 beds.

e. *Medical staff organization:* Slightly over half of these facilities have no medical staff organizational structure, approximately 24.4 percent have a formal medical staff organization, and, in 19.5 percent of the facilities, all care is provided by one physician.

**Sources employed to recruit a medical director.** A variety of sources have been employed by facilities to recruit a medical director. (Refer to Table 10.) The source most commonly employed (68.8 percent) was the physician who is associated with the facility as an attending. For 13.9 percent of the facilities, the source employed was the medical staff of an affiliated hospital. The "other" category to which 22.4 percent of the facilities responded includes such sources as: physician in community, retired physician, utilization review physician; physician owner or co-owner; personal friend or contact of the administrator.

**Table 10. The distribution of skilled nursing facilities according to the source used by the facility to recruit a medical director (N = 6823)***

| Source | Facilities | | Missing cases | |
|---|---|---|---|---|
| | Number | Percent | | |
| Physician in facility ..... | 4341 | 68.8 | 309 | p = .70; SE = .0096 |
| County Medical Society .. | 285 | 4.5 | 309 | p = .057; SE = .0036 |
| State Medical Society ... | 64 | 1.0 | 309 | p = .012; SE = .0018 |
| Affiliated Hospital Medical Staff ..... | 878 | 13.9 | 309 | p = .154; SE = .0068 |
| Other Hospital Medical Staffs ..... | 388 | 6.1 | 309 | p = .061; SE = .0049 |
| Public Health Agency ... | 61 | 1.0 | 309 | p = .013; SE = .0016 |
| Medical School Faculty .. | 82 | 1.3 | 309 | p = .019; SE = .0018 |
| Group Practice or HMO .. | 108 | 1.7 | 309 | p = .019; SE = .0024 |
| Other ..... | 1415 | 22.4 | 311 | p = .202; SE = .0087 |

* This table includes multiple responses

**Types of arrangements for the provision of medical direction.** The various types of arrangements that facilities have for the provision of medical direction are presented in Table 11. Overall, the "individual physician serving as medical director" is the most common arrangement (88.0 percent of

nursing homes developed this type of arrangement). Other arrangements include agreements with: several individual physicians (5.0 percent), the medical staff of hospital (2.9 percent), a physician partnership (2.0 percent), a group practice (1.1 percent), a medical school (0.1 percent), a Health Maintenance Organization (0.1 percent), and a medical society (0.1 percent).

The general pattern identified in Table 11 holds for urban, semi-urban, and rural areas, with minor variation. There is a slight tendency in rural areas to seek medical direction from a hospital (7.1 percent of rural facilities report an arrangement with a hospital whereas only 1.7 percent of urban and 1.2 percent of semi-urban skilled nursing facilities report such an arrangement). Individual physicians provide medical direction in 90.0 percent of facilities located in semi-urban areas, in 88.9 percent of homes located in urban areas, and 85.1 percent of facilities located in rural areas.

**Table 11. The distribution of skilled nursing facilities according to arrangement by the facility for the provision of medical direction**

| Arrangement | Facilities | | |
|---|---|---|---|
| | Number | Percent | |
| Total | 6463 | 100.0 | |
| Individual physician | 5685 | 88.0 | p = .865; SE = .0062 |
| Physician partnership | 130 | 2.0 | p = .019; SE = .0028 |
| Group practice | 70 | 1.1 | p = .014; SE = .0016 |
| HMO | 4 | 0.1 | p = .001; SE = 0.0 |
| Several individual physicians | 323 | 5.0 | p = .056; SE = .0041 |
| Medical society | 7 | 0.1 | p = .001; SE = .0004 |
| Medical school | 8 | 0.1 | p = .002; SE = .0003 |
| Medical staff of hospital | 189 | 2.9 | p = .032; SE = .0032 |
| Hospital | 10 | 0.2 | p = .002; SE = .0004 |
| Other | 38 | 0.6 | p = .007; SE = .0013 |

Missing Cases: N = 160

The data presented in Table 12 reveal that the contracted time of less than 10 hours a week for medical direction (which is the most commonly responded pattern for all arrangements), is found most frequently in facilities which have an arrangement with an individual physician to provide medical direction.

From 10 to 24 hours a week is most commonly agreed upon when the arrangement involves a medical school or medical society, while the contracted time of 25 or more hours a week is reported most frequently by facilities with an arrangement involving a hospital or hospital medical staff. Similarly, the hospital or hospital medical staff arrangement is reported most

frequently by facilities where no set time is contracted for medical direction activities.

**Table 12. The distribution of skilled nursing homes by arrangement for medical direction and the time contracted for medical direction functions (N = 6293)**

| | *Time contracted for—Hours per week* | | | | |
|---|---|---|---|---|---|
| | *Total* | *< 10 Hrs* | *10-24 Hrs* | *25 & > Hrs* | *No Set Time* |
| Arrangement for Medical Direction | % | % | % | % | % |
| Individual Physician | 100.0 | 76.2 | 13.8 | 1.6 | 8.4 |
| Multiple Physicians: partnership group HMO several individual physicians | 100.0 | 68.1 | 14.1 | 3.6 | 14.2 |
| Medical Society Medical School | 100.0 | 56.4 | 43.6 | 0.0 | 0.0 |
| Medical Staff of Hospital | 100.0 | 59.9 | 13.8 | 7.1 | 19.2 |

Missing Cases: N = 331

**Economic considerations in the provision of medical direction method of compensation.** Skilled nursing facilities compensate physicians for providing medical direction in a variety of ways. As indicated in Table 13, direct payment to the physician serving as medical director is the most common form of compensation.

**Table 13. The distribution of skilled nursing facilities by the manner in which the medical director is compensated for medical direction activities (N = 6623)***

| *Manner of compensation* | *Facilities* | | *Missing cases* | |
|---|---|---|---|---|
| | *Number* | *Percent* | | |
| Facility pays physician | 5380 | 84.0 | 216 | p = .839; SF = .0074 |
| Office space, staff, etc., for private practice | 89 | 1.4 | 216 | p = .019; SE = .0012 |
| Pay to organization | 103 | 1.6 | 216 | p = .010; SE = .0022 |
| Stock arrangement | 34 | 0.5 | 219 | p = .005; SE = .0021 |
| No pay | 807 | 12.6 | 216 | p = .126; SE = .0068 |
| Other | 180 | 2.8 | 216 | p = .025; SE = .0035 |

* This table includes multiple responses.

**Amount of payment for medical direction.** The total monthly cost to facilities for medical direction ranges from "no cost" to over $500 per month. (Refer to Table 14.) The cost does vary with bed size; that is, the larger the facility, the greater the cost. "No payment" for medical direction is most common among facilities with fewer than 50 skilled beds, while more than $500 a month is most common among facilities with 200 or more skilled beds.

The cost of medical direction varies also with the type of arrangement for direction which a facility employs. Medical direction obtained through a hospital or hospital medical staff usually is provided at no cost to the facility (61.7 percent of facilities with this arrangement report no cost for this service, 23.2 percent report a monthly cost of over $500). Most costly are the agreements with medical schools or medical societies (48.9 percent of facilities with these arrangements report a cost of over $500 a month). (Refer to Table 15.)

**Table 14. The distribution of skilled nursing facilities by the total monthly cost for medical direction**

| Total monthly cost in dollars | Facilities | |
|---|---|---|
| | Number | Percent |
| Total | 4022 | 100.0 |
| No Cost | 671 | 16.7 |
| $250 or < | 1442 | 35.9 |
| $251-$500 | 1060 | 26.3 |
| > $500 | 850 | 21.1 |

Missing Cases: N = 2601

Additionally, the degree of medical staff organization in the facility seems to have an inverse effect on the cost of medical direction. That is, the more organized the physicians in the facility, the less costly the medical direction.

Table 16 reveals that medical direction costs are associated with the type of facility. No monetary cost for medical direction is most frequent in "governmental" facilities followed by "not-for-profit, non-governmental" facilities, and least common in "for profit" facilities. A cost of up to $500 a month is most typical in "for profit" facilities, while a cost of over $500 is most common in "governmental" facilities.*

* The extremes in cost for medical direction reported by governmental facilities may be due to the manner in which this question was responded to. Some respondents stated that no cost was involved because someone other than the facility itself paid for this service, such as the State or local government.

**Table 15. The percent distribution of skilled nursing facilities by arrangement for medical direction and total monthly cost to facility for medical direction (N = 3974)**

| *Arrangement for medical direction* | *Total Percent* | *No cost Percent* | *$250 or < Percent* | *$251-$500 Percent* | *> $500 Percent* |
|---|---|---|---|---|---|
| Individual Physician ..... | 100.0 | 14.9 | 38.2 | 26.8 | 20.1 |
| Multiple Physicians: partnership group HMO several physicians ... | 100.0 | 16.1 | 24.6 | 28.4 | 30.9 |
| Medical School | | | | | |
| Medical Society ..... | 100.0 | 0.0 | 0.0 | 51.1 | 48.9 |
| Hospital Medical Staff | | | | | |
| Hospital ..... | 100.0 | 61.7 | 4.4 | 10.7 | 23.2 |

Missing Cases: N = 2649

**Table 16. The distribution of skilled nursing facilities by ownership and total monthly cost for medical direction (N = 4022)**

| *Total monthly cost in dollars* | *Type of Ownership* | | | | | |
|---|---|---|---|---|---|---|
| | *For profit* | | *Not for profit non-government* | | *State and local government* | |
| | *Number* | *Percent* | *Number* | *Percent* | *Number* | *Percent* |
| No Cost ..... | 196 | 7.3 | 295 | 31.8 | 179 | 43.7 |
| $250 or < ..... | 1136 | 42.4 | 252 | 27.1 | 54 | 13.2 |
| $251-$500 ..... | 852 | 31.8 | 162 | 17.4 | 46 | 11.3 |
| > $500 ..... | 498 | 18.6 | 221 | 23.8 | 130 | 31.8 |
| Total ..... | 2683 | 100.0 | 930 | 100.0 | 409 | 100.0 |

Missing Cases: N = 2601

Finally, the cost of medical direction is affected by the extent to which the medical director is involved in non-medical direction activities within the facility, such as attending patients and providing emergency care. Whether or not the medical director attends patients in the facility appears to have an affect on the cost of medical direction, although not on the number of hours contracted for this service. When the medical director attends patients, the cost to the facility for medical direction is likely to be less than when the medical director does not attend patients even given an equal amount of time spent on medical direction. When the medical director performs non-medical direction activities other than patient care and emergency care, the cost for medical direction is more (as are the hours contracted for) than when the medical director is not involved in these activities.

**Profile of the medical director in skilled nursing facilities.*** The medical director surveyed in this study is "typically" a physician in solo practice who had been associated with the facility prior to being recruited as medical director. He/she functions as an attending physician to patients in the facility (80.6 percent of medical directors attended patients) in addition to carrying out the duties of medical director; he/she spends 10 hours or fewer a week (76.2 percent so reported) and more likely less than five hours a week (61.0 percent) on medical direction activities. The medical director visits the facility at least once a week or more often (72.0 percent), at which time he/she both attends patients and performs medical director activities (56.2 percent), and may or may not be on call to the facility on an "as needed" basis (40.6 percent). The number of patients he/she attends in the facility range from 1-50 (66.9 percent). He/she is not likely to provide medical direction for other facilities (72.0 percent). If he/she does, it is generally for no more than two other facilities (81.7 percent).

The skilled nursing facility meetings most frequently attended by medical directors, as a voting member, are: patient care (70.1 percent), pharmaceutical (75.8 percent), and infection control (77.6 percent). He/she is less likely to be a voting member of the utilization review committee (49.5 percent), and medical records committee (39.3 percent). He/she keeps the skilled nursing facility administrator and/or the governing body informed by monthly formal meetings (45.4 percent) and weekly (or more often) informal conversations (61.6 percent).

The medical director spends a quarter or less of his/her time in an average month on the following medical direction functions: (a) developing/implementing bylaws, rules and regulations covering the responsibility of each physician attending patients in the skilled nursing facility (56.1 percent); (b) developing/implementing policies regarding medical records maintenance, review and evaluation (66.3 percent); (c) working with other patient care personnel to develop written policies to govern continued skilled care (62.4 percent); (d) developing/revising written policies to insure quality care (66.9 percent); (e) keeping administration informed about policies and programs of public health agencies (66.9 percent); and (f) developing/implementing policies for employee health screening and surveillance (65.9 percent).

He/she spends the least amount of time (0-30 minutes per week) on activities such as: (a) discussions with attending physicians regarding their patients (69.9 percent); (b) discussions with skilled nursing facility department heads other than the administrator and director of nursing (62.7 per-

* The data reported in this section are derived from the questionnaires completed by medical directors. Given the response rate for this questionnaire the characterization should be viewed as suggestive; 1,087 usable returns were obtained from medical directors as a result of surveying 3,338 facilities.

cent); (c) reviewing incidents and accidents in the skilled nursing facility (62.5 percent); (d) participating in inservice training programs (61.1 percent); (e) being medical representative of the skilled nursing facility in the community (57.7 percent); and (f) discussions with the administrator (56.3 percent).

More of the medical director's time (1-4 hours per week) is spent on activities such as: (a) making patient rounds to check on care (22.1 percent); (b) reviewing medical records (16.8 percent); (c) committee meetings (16.0 percent); and (d) discussions with the director of nursing (14.9 percent). Reviewing medical records and making patient rounds are the activities on which he/she spends the most time.

The typical medical director is male (94.0 perecnt); between 41 and 70 years of age (72.5 percent) (more probably between 51 and 60 years of age, 27.4 percent), and has graduated from a medical school in the U.S. (76.2 percent) from which he obtained a professional degree after 1941 (59.2 percent). He is not likely to be board certified (27.8 percent), but if he is, certification is typically Family Practice (19.2 percent) or Internal Medicine (16.2 percent). While not board certified, he may none-the-less restrict his practice (36.8 percent), particularly in Family Practice (16.2 percent) or Internal Medicine (12.9 percent).

The typical medical director has functioned in the role of a skilled nursing facility medical director for 1-5 years (79.2 percent) and more probably one year or less (46.0 percent). In addition, he is very likely to be a member of a hospital staff (90.1 percent) and is in solo practice (55.2 percent). (Only 3.0 percent of the physicians responding indicated that they had retired from the practice of medicine.)

**Nursing director involvement in medical direction.** The data presented in Table 17 indicate that the directors of nursing in skilled facilities are highly involved in the implementation of the concept of medical direction. More than one half of the directors of nursing report high involvement in five of the medical direction functions.

**Administrator's perception of barriers in implementing the concept of medical direction.** In ranking designated issues as to their importance as barriers in implementing the concept of medical direction, the largest number of the administrators (44.7 percent) ranked as very important the willingness of physicians to serve as medical directors. The next largest number of administrators (39.9 percent) ranked the availability of physicians to serve in this capacity as a very important barrier. Interestingly, only 26.3 percent of the administrators ranked cost as a very important barrier. (Refer to Table 18.)

**Table 17. The distribution of directors of nursing of skilled nursing facilities by extent of involvement in medical direction functions in the facility (N = 1321)**

| Medical direction functions | Total | Extent of Involvement: Highly involved | Involved | Minimally involved | Not involved | Missing |
|---|---|---|---|---|---|---|
| | Percent | Percent | Percent | Percent | Percent | Percent |
| Keeping administration informed about policies and programs of public health agencies that may affect patient care programs | 100.0 | 39.7 | 39.5 | 15.1 | 4.5 | 1.1 |
| Developing/implementing bylaws, rules and regulations covering the responsibility of each physician attending a patient in SNF, concerning frequency of visits, examinations, medical care plan for each patient, prescribing of medications, evaluation of progress | 100.0 | 52.4 | 34.0 | 8.7 | 3.9 | 0.9 |
| Developing/implementing policies regarding medical record maintenance, review and evaluation | 100.0 | 50.9 | 34.7 | 10.5 | 3.1 | 0.8 |
| Developing/implementing policies for employee health screening and supervision | 100.0 | 48.7 | 37.2 | 10.4 | 2.8 | 0.9 |
| Working with other patient care personnel to develop written policies to govern continued skilled nursing care and related medical and other services, inc., admission and discharge policy | 100.0 | 64.4 | 29.1 | 4.7 | 1.2 | 0.6 |
| Developing/revising written policies to insure quality care | 100.0 | 69.7 | 24.8 | 3.3 | 0.9 | 1.3 |
| Reviewing incidents and accidents occurring on the premises of SNF, with recommendations for action to Administration | 100.0 | 66.2 | 27.5 | 4.5 | 0.8 | 1.1 |
| Other | 100.0 | 3.4 | 0.5 | 0.1 | 0.0 | 96.0 |

Table 18. The percent distribution of skilled nursing facilities by the extent to which designated issues are identified by administrators as barriers in implementing the concept of medical direction (N = 6623)

| | Total | Very Important | Important | Not Important | Missing cases |
|---|---|---|---|---|---|
| | Percent | Percent | Percent | Percent | Number |
| Cost to facility | 100.0 | 26.3<br>p = .287; SE = .0069 | 30.5<br>p = .347; SE = .0066 | 43.1<br>p = .366; SE = .0096 | 564 |
| Availability of physicians | 100.0 | 39.9<br>p = .438; SE = .0097 | 23.2<br>p = .253; SE = .0083 | 37.0<br>p = .310; SE = .0098 | 360 |
| Willingness of physicians | 100.0 | 44.7<br>p = .494; SF = .0098 | 16.8<br>p = .188; SE = .0073 | 38.6<br>p = .318; SE = .0098 | 372 |
| Work relationships:<br>Medical Director/Nurse | 100.0 | 21.8<br>p = .264; SE = .0075 | 17.9<br>p = .223; SE = .0068 | 60.3<br>p = .514; SE = .0091 | 377 |
| Medical Directors/<br>Administrator | 100.0 | 20.5<br>p = .247; SE = .0058 | 19.0<br>p = .238; SE = .0069 | 60.6<br>p = .515; SE = .0086 | 381 |
| Medical Director/<br>Other Physicians | 100.0 | 23.4<br>p = .218; SE = .0078 | 20.9<br>p = .252; SE = .0075 | 55.6<br>p = .467; SE = .0074 | 427 |
| Understanding of Medical Director Role | 100.0 | 28.3<br>p = .347; SE = .0096 | 23.8<br>p = .259; SE = .0085 | 47.9<br>p = .394; SE = .0095 | 425 |

Responses to this question showed some variation geographically, particularly in relation to the two issues involving physician willingness and availability. All the issues (except cost) were judged more frequently to be very important by administrators in rural areas.

**Advantages of medical direction identified by administrators.** The information reported in this section derive from the response of skilled nursing facility administrators to the following open ended question: "What in your opinion are the advantages and disadvantages of medical direction as defined in the Medicare/Medicaid conditions of participation?"

In identifying advantages of medical direction the administrators most often referred to the medical director's potential influence on physicians to carry out certain duties (e.g., regular visiting of patients, writing orders, consulting with nurses, etc.) and overall better relationships with attending physicians. Another large segment of advantages identified referred to the improvement of patient care. The next most frequent advantage stated was having a single medical source to whom to refer problems and having someone available with whom to discuss problems.

One important function of the medical director is generally to advise the administrator and the director of nursing, and specifically to assist in developing policies and procedures and standardizing treatment. The facilities in the telephone interview also spoke of making the facility more appealing to nurses by having medical direction. Some called it "professionalism." Several remarked about the improvement in the quality of nursing as a result of medical direction. Others referred to the medical director as a "back-up" for nurses and pharmacists.

The telephone interview elicited more statements regarding the availability of the medical director to see patients (primarily to meet Federal requirements) when the private attending physician did not appear. A few telephone respondents felt that having a medical director was a disadvantage because attending physicians did not visit as often as before because the medical director would do what was necessary.

Only a small percent (2 percent) of administrators mentioned availability for emergency care as an advantage. Other occasional items listed were employee health supervision, patient consultations, inservice education, and infection control.

**Disadvantages of medical direction identified by administrators.** Despite the fact that over 98 percent of the administrators responding to our questionnaire stated that they have a medical director, the nonavailability of physicians interested in the position was given by 9 percent of those who

listed disadvantages of medical direction. This perhaps indicates that many of the current medical directors are not interested in the position and have accepted it simply to help an institution maintain Federal support.

A significant complaint of administrators relates to the cost of the service, including lack of adequate reimbursement and delays in receiving payment from State agencies. This comment made up one-third of all complaints.

The next greatest complaint (13 percent) related to the "colossal," "unrealistic," "overwhelming" amount of paperwork involved. About 6 percent were very specific in stating that Federal guidelines were too general and hard to interpret, both by physicians and administrators. Numerous comments were made about the limited time the medical directors were available. Several stated that the job could not be completely accomplished unless the medical director were employed full-time.

## Model study results

**A typology of medical direction arrangements.** This section contains information about medical direction obtained through indepth investigation of 21 skilled nursing facilities. We suggest that the various arrangements for the provision of medical direction identified in the national survey and in the case studies can be portrayed in terms of four basic types or "models."

While a number of classification schemes were considered by the project staff to portray the various ways in which medical direction is being provided, the typology suggested below appears to provide an efficient means of characterizing the diversity that the study group identified. The four basic arrangements include: 1) *Type A*—one medical director, one facility, 2) *Type B*—one medical director, several facilities, 3) *Type C*—multiple medical directors, one facility, 4) *Type D*—multiple medical directors, several facilities.

**Figure 2. Typology of models for medical direction**

| *Facility—medical director relationship* | *One facility* | *Several facilities* |
|---|---|---|
| One Medical Director | Type A<br>11 facilities | Type B<br>4 facilities |
| Several Medical Directors | Type C<br>2 facilities | Type D<br>4 facilities |

Parts 2, 3, 4 and 5 below contain an overview of the four basic types. The final report presents a more complete description and analysis of four facilities, one representing each type of arrangement for medical direction. In addition a detailed case description has been prepared for each facility visited.

Within each type there exists a significant amount of variation in: (a) the characteristics of the facilities, (b) the terms of the medical direction arrangement, and (c) the medical director's scope of practice. The overviews presented below of each type of arrangement are introduced by a figure listing the facilities studied which had adopted the given type. Displayed within each figure is information about facility characteristics, physician characteristics, and medical director variables. These characteristics are primarily presented as an indication that there is an empirical referent for the statements concerning each type of medical direction arrangement. The figures also serve as an index to the case studies for those readers who desire to review in depth any particular case report.

The fact that the facilities studied vary along certain critical dimensions related to medical direction was insured by the selection procedure described in Part III of this report. The diversity in terms of the arrangement (e.g., time spent in the facility, compensation, and number of patients who are cared for by the medical director) reveals the variation which exists within the typologies. The case studies also reveal a wide variation in the medical director's scope of practice.

Each of the four medical direction types is discussed below in terms of the "facility's rationale for adopting the arrangement" and the "characteristics" or behaviors which occurred under each type.

**General comments about the facility's rationale for choosing a particular type.** The arrangement for the provision of medical direction in skilled nursing facilities is not necessarily solely dependent on the availability of a physician who is willing to serve in that capacity. Although physician availability appears to be a contributing factor, there are others which collectively come to bear in the final determination of the manner in which medical direction is ultimately organized.

The investigators view the choice of the working arrangements as the product of an intelligent choice by the facility's administration based on the following kinds of factors: (a) the needs of the facility; (b) the resources within the facility; (c) the resources within the community; and (d) an appraisal of the options available. The first two of these factors may be viewed as subjective; they involve an appraisal by the facility's administration of the medical needs of both the residents and the facility, and the identity of in-house resources applicable and relevant to such needs. The remain-

ing two factors encompass objective discovery of the potential providers of medical direction and an evaluation of the benefits or obstacles to their application to the immediate facility environment.

**General comments about the resulting characteristics of the type of arrangement.** The actual performance of medical direction functions was explored through the interview process in order to disclose the variation, if any, between the formal arrangement for providing medical direction and the actual behavior of those involved in providing medical direction.

In addition, the researchers identified the benefits and problems which were associated with each arrangement. These findings are summarized below within the commentary relative to each typology in that section entitled "Resulting Characteristics of the Arrangement."

**Overview of type A: one medical director, one facility.**

**Figure 3. Type A arrangement**

| | *One facility* | *Several facilities* |
|---|---|---|
| One Medical Director | Type A | Type B |
| Several Medical Directors | Type C | Type D |

In Figure 3a, we portray the diversity of organizational and physician characteristics associated with Type A.

**Facility's rationale for adopting type A arrangement.**

(1) A physician, usually an attending physician to patients in the facility but perhaps an investor or advisory physician pursuant to a State requirement, having an established association with the facility, assumes the position of medical director.

(2) The skilled nursing facility offers specialized care, such as rehabilitation or chronic disease care, and seeks a physician having relevant training, experience, and interest in long-term care. The dearth of such physicians tends to limit the number of available physicians for specialty care facilities.

(3) The skilled nursing facility espouses a particular philosophy in providing care and seeks a physician to promote this philosophy (i.e., social model—medical director relates to families of patients primarily).

**Figure 3a. Selected characteristics of facilities included in the model study which were classified as type A: one medical director, one facility**

| Facility ID number | Facility variables | | | Physician factors | Medical director variables | | |
|---|---|---|---|---|---|---|---|
| | Location | Control | Skilled/ total beds | N of attendings and organized medical staff | N of hours per week* | Monthly compensation | N of patients attended |
| 02 ..... | Rural | Profit | 57/57 | 2—No | 1 hour | None | 51 |
| 04 ..... | Rural | Non-profit | 41/80 | 2—No | 40 hours | $1500 | 78 |
| 06 ..... | Rural | County | 25/46 | 2—Yes | 10 hours | None | 46 |
| 07 ..... | Rural | Profit | 125/125 | 13—No | 1.5 hours | $ 300 | 47 |
| 10 ..... | Urban | Profit | 80/80 | 25—No | 2.5 hours | $ 480 | 23 |
| 11 ..... | Urban | Profit | 98/98 | 10—Yes | 10 hours | None | 68 |
| 12 ..... | Urban | Profit | 60/124 | 38—No | 1 hour | $ 200 | 9 |
| 16 ..... | Urban | Non-profit | 98/98 | 31—Yes | 4 hours | $ 100 | 0 |
| 18 ..... | Urban | Non-profit | 56/114 | 65—No | 5 hours | $ 150 | 0 |
| 20 ..... | Urban | Non-profit | 128/157 | 126—Yes | 1 hour | $ 140 | 7 |
| 21 ..... | Urban | Non-profit | 45/270 | 25—Yes | 40 hours | $5000 | 70 |

* N represents the number of hours contracted for medical direction by the facility.

(4) The arrangement is easily effectuated, having only two parties: usually, the administrator representing the facility, and the physician to negotiate for and develop the position of medical director.

**Resulting characteristics of the type A arrangement.**

(1) A medical director relating to a single facility may concentrate his/her time and efforts on meeting the medical needs and goals of the facility.

(2) A single medical director relating to a single facility provides continuity in effectuating medical direction.

(3) A single physician functioning as medical director for a single facility develops personal and close working relationships with key facility personnel in effectuating medical direction. This is particularly true of the relationship between the medical director and director of nursing.

(4) A single medical director relating to a single facility may encounter difficulty in the evaluation of his/her performance.

**Sample facility.**

(1) In a very rural community with limited physician resources, a medical director attends 95 percent of the patients in the facility, and there is only one other physician providing care. The facility is dominated by an administrator who has long experience in acute care administration and uses a highly structured approach to the delivery of care, including the provision of care by the house physician-medical director who makes rounds regularly and has substantial committee involvement.

The contract and job description merge the roles of medical director-house physician functions into one document. Since the physician spends three full days per week in the facility attending patients, he combines his two roles of attending physician and medical director, and is a readily accessible consultant to the administrator.

The director of nursing performs liaison to ensure that the house physician-medical director, and other attending physicians, maintain their records in accordance with Federal and state regulations.

The medical director's role of attending to most of the patients raises the issue of whether he has the ability to coordinate the care he provides. Where the medical director has a background in academic medicine, a review of patient care based on medical record abstracts provides a system for monitoring the quality of care by a committee of department heads and the medical director.

**Overview of type B: one medical director, several facilities.**

**Figure 4. type B arrangement**

| | *One facility* | *Several facilities* |
|---|---|---|
| One Medical Director | Type A | Type B |
| Several Medical Directors | Type C | Type D |

In Figure 4a, we portray the diversity of organizational and physician characteristics associated with Type B.

**Rationale for choosing type B arrangement.**

(1) Several skilled nursing facilities may be related by virtue of a common or corporate structure and choose a physician to function as medical director in all facilities.

(2) Lack of time or interest among physicians attending patients in a facility may require the facility to retain a physician who also functions as medical director elsewhere.

(3) A physician interested in functioning as medical director is available to a number of skilled nursing facilities.

(4) The arrangement is easily effectuated.

**Resulting characteristics of the type B arrangement.**

(1) A physician serving several skilled nursing facilities must divide his time and efforts.

(2) A physician must adapt his practices as medical director to the needs and administrative modes of each facility.

(3) As a medical director adapts his practices to various facility environments and administrative modes, he/she may develop a process for identifying and solving facility-related medical direction problems.

(4) A physician having multiple-facility exposure as medical director may discover beneficial practices in one facility, and promote, implement, or execute these in others.

(5) Where a medical director serves several independent facilities, but provides no patient care, he/she may relate primarily to the administrative level of the facility, and not to the director of nursing or the physicians who attend patients.

(6) A physician functioning as medical director to related facilities may be able to effectuate common or standardized methods relative to record-

Figure 4a. Selected characteristics of facilities included in the model study which were classified as type C: one medical director, several facilities

| Facility ID number | Facility variables | | | Physician factors | Medical director variables | | |
|---|---|---|---|---|---|---|---|
| | Location | Control | Skilled/ total beds | N of attendings and organized medical staff | N of hours per week* | Monthly compensation | N of patients attended |
| 01 ..... | Very Rural | Profit | 57/57 | 7—No | 1 day/month | $350 | 0 |
| 05 ..... | Rural | County | 40/40 | 6—Yes | 2.5 hours | $400 | 32 |
| 06 ..... | Urban | Profit | 19/50 | 12—No | 10 hours | $200 | 0 |
| 19 ..... | Suburban | Not-for-profit | 64/128 | 50—No | 4 hours | $500 | 1 |

* N represents the number of hours contracted for medical direction by the facility.

keeping, evaluations, policies, and cost containments through the organizational structure.

(7) A physician functioning as medical director to related facilities may be required to relate to the common or corporate organization in addition to the individual facilities within the structure.

**Sample facility.**

(1) Facility 01's medical director spends one day per month in the skilled nursing facility because he lives 80 miles away. He is medical director for four facilities and has a part-time practice. This type of arrangement results in problems for both the medical director and the facility. The medical director's availability is limited to the skilled nursing facility, and medically related problems must be dealt with on the day he is in the facility.

The medical director stated that he has to adjust his style to the *modus operandi* of the facility in which he is working, but this has not presented any obstacles to him. He is new to the community and is not familiar with the attending physicians, and is therefore unable to supplement his formal role with informal relationships.

All of the key personnel in Facility 01 (administrator, director of nursing, and medical director) are relatively new to the town. With the administrator's help, they work together closely as a team with a goal of improving the quality of life for the patients in Facility 01 by balancing the medical and social aspects of the environment.

**Overview of Type C: several medical directors, one facility.**

**Figure 5. Type C arrangement**

| | *One facility* | *Several facilities* |
|---|---|---|
| One Medical Director | Type A | Type B |
| Several Medical Directors | Type C | Type D |

Figure 5a presents the organizational and physician characteristics associated with Type C.

**Rationale for choosing type C arrangement.**

(1) There is no individual physician willing to assume the responsibilities of medical director.

**Figure 5a. Selected characteristics of facilities included in the model study which were classified as type C: several medical directors, one facility**

| | Facility variables | | | Physician factors | Medical director variables | | |
|---|---|---|---|---|---|---|---|
| *Facility ID number* | *Location* | *Control* | *Skilled/ total beds* | *N of attendings and organized medical staff* | *N of hours per week*** | *Monthly compensation* | *N of patients attended* |
| 03 ..... | Very Rural | Profit | 72/72 | 4—No | 1 hour. | $200 | 18 |
| 17 ..... | Urban | Not-for-profit | 99/99 | 75*—Yes | 2.5 hours | None | 65 |

* Seventy-five physicians have staff privileges; however at any given time only 15-20 of these physicians have patients in the facility.

** N represents the number of hours contracted for medical direction by the facility.

(2) There is an organized medical staff within the facility which will designate a group or committee to perform medical direction functions.
(3) The attending medical staff is reluctant to submit to the authority of one physician as an overseer or coordinator of physicians' services.
(4) The facility espouses a philosophy intending to maximize the relationship between individual physicians and their patients.

**Resulting characteristics of type C arrangement.**

(1) The use of several physicians to perform as medical director permits diversification in conceptualizing and developing the role of the medical director, identification of facility's medically related problems, and potential remedial recommendations or conduct, although one physician tends to perform most medical direction functions.
(2) Several medical directors may be able to collectively evaluate the performance of each physician executing medical director functions.
(3) The use of several physicians as medical directors increases accessibility by facility personnel to a physician for medical information and opinions.
(4) The use of several physicians as medical directors relieves one individual of the task of monitoring services rendered by attending physicians and other care providers.
(5) Where medical direction is performed by several physicians, there is a need to develop methods for coordination of their efforts.
(6) Where medical direction is performed by several physicians, some medical director functions may not be performed unless there is an expressed separation and agreement on the duties of each physician.
(7) Where several physicians rotate annually or on a regularly scheduled basis as medical director:
    (a) Medical direction can be expected to vary with the performance of each physician.
    (b) Each of the several physicians may view the role of medical director differently, and may generate inconsistency in medical direction within the facility.
    (c) Key facility personnel must adjust to each medical director's methods of operation.

**Sample facility.**

(1) A small skilled nursing facility located in a rural community having only four physicians may experience difficulty in recruiting a physician to assume the position of medical director on a permanent basis. Where all four physicians provide services to patients in the facility, they may

each agree to serve as medical director for a one-year term on a rotating basis. Limited facility funds for medical direction restricts both the number and extent to which medical direction functions are performed. Where the facility administrator has limited managerial or health care institutional experience, the medical director may relate primarily to the director of nursing, and in addition, may perform some administrative functions such as goal-setting, choice of methods for implementation of programs, styling of medical records, and the need for in-service programs.

A medical directorship rotating among all attending physicians is beneficial in increasing the understanding of attendings of the operational difficulties presented to the facility. Rotating the medical directorship among several physicians permits each to suggest practical and diverse solutions to difficulties encountered by the facility. A monthly hospital medical staff meeting where matters pertaining to the skilled nursing facility are regularly discussed, by the facility medical director, and all physicians attending facility patients may be an effective communication or liaison tool, but may also inhibit the development of rules or regulations delineating the conduct of facility attending physicians.

A medical director who is personally or professionally associated with all attending physicians may be reluctant or refuse to monitor the quality of care provided by such attending physicians. A rotating medical directorship may present some problems to the facility in terms of adjustment to the method of communications, program development, and interrelationships among key facility personnel as each new physician assumes the medical directorship.

**Overview of type D: several medical directors, several facilities.**

**Figure 6. Type D arrangement**

| | *One facility* | *Several facilities* |
|---|---|---|
| One Medical Director | Type A | Type B |
| Several Medical Directors | Type C | Type D |

Figure 6a displays the organizational and physician characteristics associated with Type D

**Figure 6a. Selected characteristics of facilities included in the [illegible] study which were classified as type D: several medical directors, several facilities**

| | Facility variables | | | Physician factors | Medical director variables | | |
|---|---|---|---|---|---|---|---|
| Facility ID number | Location | Control | Skilled/ total beds | N of attendings and organized medical staff | N of hours per week* | Monthly compensation | N of patients attended |
| 09 ..... | Urban | Profit | 72/72 | 11—No | 1 hour | $283 | 0 |
| 13 In same | Urban | Profit | 42/88 | 5—No | 2 hours | $250 | 11 |
| 14 chain | Urban | Profit | 74/74 | 22—No | 2 hours | $400 | 0 |
| 15 ..... | Urban | Profit | 208/208 | 175—Yes | 1 hour | $150 | 6 |

* N represents the number of hours contracted for medical direction by the facility.

**Rationale for choosing type D arrangement.**

(1) Several skilled nursing facilities are related by virtue of a common organization, and the organization retains several physicians to serve as medical director to its member facilities. (Case studies 13 and 14 which are in same chain.)

(2) Several physicians organize for the purpose of developing medical direction and seek to contract with a number of skilled nursing facilities to provide medical direction.

(3) Several physicians, none of whom is willing to solely assume the responsibilities of medical director, agree to share those responsibilities and also agree to so function in another facility.

**Resulting characteristics of type D arrangement.**

(1) Several physicians providing medical direction in several facilities present diverse attitudes, skills, and experiences in defining the role of a medical director in a variety of facility settings.

(2) Several physicians providing medical direction in several facilities may establish a peer group which may effectively evaluate the performance of their members.

(3) Several physicians providing medical direction in several facilities possess a composite experience which may generate improved or standardized policies and records and methods for performing existing and additional medical direction functions beneficial to individual or all facilities with which the several physicians relate.

(4) Several physicians providing medical direction to several facilities may form a physician pool that would be available to other facilities unable to retain effective medical direction.

(5) Several physicians serving as medical directors to several facilities may each perform some specialized (and perhaps superior) medical direction functions to the several facilities.

(6) Several physicians serving as medical directors to several facilities may promote new beneficial relations, that are independent of medical direction among the facilities served.

(7) Several physicians serving as medical directors to several facilities may be required to expend additional effort and time to coordinate their group endeavor.

**Sample facility.**

(1) Ten skilled nursing facilities operated by a parent corporation may systematically provide for medical direction by contracting with physicians organized in a large multi-specialty group practice that assigns a num-

ber of physicians to actually perform medical direction in individual facilities. This fundamental arrangement provides a source for medical directors that is essentially inexhaustible and lends an additional advantage of quality control and medical direction development in both the facility and the group practice. This advantage is further promoted by the device and appointment of a Coordinating Medical Director who is to develop a medical director group organized into a system of regular communication between the several medical directors for the purposes of defining the respective roles of the medical directors, functioning as a monitoring device of their performance, as a collective problem solving agency specializing in medical matters encountered in the individual facilities, and as resource for the standardization of medical and administrative policy.

One potential disadvantage is that the medical direction coordination effort requires additional investments of time both of the individual physicians serving as medical directors and the Coordinating Medical Director in planning useful group meetings. Another disadvantage is that, to the extent that a functional group of medical directors accomplish standardization of policy, there is relative diminuation of administrator prerogatives within each facility that may generate conflicts between individual administrators and medical directors.

This systematic approach to medical direction requires time to fully develop and in the instant case, the site visit occurred only six months after the initial efforts and much remains to be accomplished. It is already apparent, however, that the total cost to all ten facilities of such a system is less than each facility would independently expend in order to gain the same advantages from individually functioning medical directors, based on corporate estimates of the time required of individual medical directors to establish policies and methodologies for separate facilities. The cost saving is essentially realized from the inter-facility sharing of proven medical direction techniques and policies.

Presently ignored within this system is the attending physician. Although documented medical staffs appear in individual facilities, the attending physician has not yet fully become involved, and the sample case study reveals that the ultimate effect of the system remains to be proven.

The experience of medical direction in Facility 14 demonstrates also the use of an existing committee to effectuate medical director review of physician performance. The medical director of Facility 14 does not deal directly with attending physicians but rather effectuates his review function as a member of the Utilization Review Committee.

Of additional importance is the approach utilized by the parent corporation to coordinate many administrative, nursing, and medical director functions through the retention of corporate specialists who are regularly avail-

able to the individual facilities. The monthly meetings of the Administrator Group, Director of Nursing Group, and Medical Director Group greatly enhance the corporate standards, which appear to focalize on quality care.

## Summary commentary and recommendations

### Summary comments

Our most general conclusion is that administrators of skilled nursing facilities have responded to the requirement for medical direction by attempting to implement and incorporate into the facility the position of medical director. The vast majority of these specialized nursing homes have provided for some form of medical direction. While it is far too soon to determine the effects of medical direction upon patie care, it appears that the potential exists for the concept of medical directi be an effective force in improving patient care. There are, however, a number of barriers to the implementation of this concept and the success of the medical direction program will depend upon the ability of facilities to overcome them.

A number of issues appear to be important barriers to fully implementing the concept of medical direction. Among the issues identified in this research are: (1) the reluctance of qualified physicians to assume the role; (2) confusion concerning the actual role of the medical director; (3) administrative problems such as excessive paper work and inadequate reimbursement; (4) limitations in the amount of time physicians have to devote to the tasks assigned to the medical director (by far the most common number of hours contracted for is fewer than 10 hours per week) and (5) among the liaison, education, and monitoring functions associated with the medical director role, physicians serving as medical directors approach monitoring activities with most reluctance.

On the other hand, a number of advantages related to the concept of medical direction, were identified by those administrators who participated in the survey. These advantages are worthy of note since they were reported directly by persons having had practical experience in attempting to apply the concept.

The major advantages of medical direction as identified by skilled nursing facility administrators include: (1) the potential ability of the medical director to communicate with and influence physicians to provide better patient care and to interact more effectively with the administrative, nursing, and other facility personnel; (2) the availability of a single medical consultant with whom administrators, nurses, and other staff can discuss

specific problems; (3) the improvement in the medical climate and image of the facility both within the community and internally (for example, some administrators stated that having a medical director increased the professionalism of the setting and made working in a skilled nursing facility more appealing to nurses and other health professionals), and (4) the medical director apparently provides an important backup in emergencies and in cases where the attending physician fails to respond to the needs of patients.

Despite the many seminars conducted by such organizations as the American College of Nursing Home Administrators and the American Medical Association, and the numerous speeches and papers on the topic, there remains much misunderstanding of the clinical and administrative aspects of the medical director's role. Thus, the traditional gap between "theory and practice" remains in developing and implementing working arrangements for the provision of medical direction.

According to the survey data, skilled nursing facilities demonstrate limited variation in developing arrangements for medical direction; an agreement with a physician in solo practice who has had some pre-medical direction relationship to the facility is the most frequent arrangement. However, the model-study phase of the project proved particularly useful in providing in-depth information descriptive of significant characteristics surrounding the various arrangements for providing medical direction. The importance of such individual facility characteristics becomes apparent when viewed in terms of three basic questions; (1) what reasons support the choice of a particular arrangement; (2) how are existing personnel and resource utilized to effectuate medical direction, and (3) what effect does the medical direction arrangement exert on the performance of physicians attending residents, as well as on administrative and supervisory facility personnel.

Case studies indicate that the process for choosing a method for providing medical direction is the result of a conscious effort, not only to achieve an acceptable level of compliance with the regulation, but also to satisfy administrative and patient needs.

A heretofore underestimated factor in medical direction may be the extent to which directors of nursing, and in some cases administrators, are involved in medical direction functions. Some 50 percent of the directors of nursing surveyed reported high involvement in six medical direction functions. The case studies universally reveal that medical direction functions mandated by the "Condition of Participation" are performed by a variety of facility personnel and committees. Rarely, if ever, are such functions performed exclusively by the individual physician functioning as medical director. The implementation of medical direction is therefore a highly complex and dynamic process involving multiple personalities at the facility level, and sometimes involving others situated beyond the confines of the individual facility.

A third observation based on case studies demonstrates disparity between

the formal medical direction arrangement (as evidenced by the medical director's contract and job description), and the informal model, or daily conduct of medical direction functions. Apparent and documented functions of the formal model adopted by the facility may be ignored or expanded in actual practice. In some facilities such disparity results in unresolved conflicts between persons necessarily involved in medical direction functions, and in other facilities, unexpected strengths and benefits are found.

The cost for medical direction ranges from "no cost" to over $500 a month. (Approximately 10 percent of the facilities report "no cost," approximately 33 percent report a cost of $500 a month or less, and a little over 10 percent report a cost of more than $500 a month.) The cost tends to vary with the size of the facility, with small facilities paying less for medical direction than large facilities, and also with the type of arrangement for medical direction. The most costly arrangements are with medical schools and medical societies.

Among the three ownership types of facilities, "for-profit" facilities demonstrate the most homogenous structural characteristics of medical direction. Typical for these facilities is the individual physician serving as medical director, who spends fewer than 10 hours a week on medical direction, and gets paid $500 or less a month for this service.

"Government" facilities demonstrate the most variation in the provision of medical direction, using various arrangements that often involve a hospital or hospital medical staff or a multiple physician arrangement. Cost for medical direction is also variable in these facilities, ranging from "no cost" to over $500 a month. These facilities contract for more hours of medical direction than either of the other two types of facilities.

"Not-for-profit, nongovernmental" facilities are also diverse in the manner of providing medical direction and resemble governmental facilities in the variation of arrangements utilized. For these facilities, some type of multiple-physician arrangement is most typical. In the hours contracted for medical direction, and cost for this service, these facilities fall between the "for-profit" and "governmental" facilities, commonly having no set time contracted for medical direction, and often do not pay a physician for this service. Also, these facilities are the most highly represented among those seeking a waiver of the medical direction requirement.

### Recommendations

**Recommendation 1.** It is recommended that the Federal government continue to strive to promote quality medical direction in the nursing home field and to give high priority and support to ensure that such activity continues to have a positive impact on administrative and patient care functions in all such health facilities.

**Comment:** Three principal positive effects of medical direction have been identified as a result of the research described in this report. The first is that medical direction tends to increase accessibility to a physician's medical knowledge at the facility level. This effect appears to contribute substantially to an overall increase in the level of medical consciousness of several facility actors attempting to fulfill the basic mission of a skilled nursing facility.

A second positive effect of medical direction is that it may constitute an effective facility instrument in gaining credibility and administrative leverage with attending physicians, who in many instances appear in skilled nursing facilities as reluctant providers or documentors of medical care.

A third positive effect is that medical direction may provide additional strength to the management structure of the skilled nursing facility. As such, a medical director can assist the facility administrator and the director of nursing to better define and perform their roles within the facility. In addition, a medical director may prove a valuable resource as a contributor to the facility problem-solving mechanism, especially in those areas involving epidemiologic matters, and where facility policy must conform to acceptable medical standards. A medical director's involvement may also reinforce the inservice and other (e.g., outside resources) training functions of facilities by planning and presenting quality programs for facility personnel, and where such programs may be exchanged between skilled nursing facilities, may strengthen interfacility relations.

To note these positive effects of medical direction raises the issue of how they, and others, can be promoted by the Federal government. It is suggested that, although a compliance oriented approach has proved somewhat effective in generating such positive effects, these effects may be further enhanced and expanded through the use of certain other incentives. One such incentive may be a monetary award (such as higher reimbursements) to facilities which demonstrate additional positive effects as the result of having a medical director. A second incentive may be allowing more flexibility to the facility in the establishment of a medical direction plan, including purposes and goals at the facility level (as opposed to strictly meeting prestated Federal objectives) which would be approved by an appropriate enforcement agency.

By encouraging the skilled nursing facility to shape the medical director's role to meet its own needs, the skilled nursing facility personnel become active participants in the development of a medical directorship which is appropriate, albeit unique, and perhaps more economical. Such a suggestion also involves the development of a new role for surveyors and enforcing agencies, many of whom have functioned in a consultative fashion in the past, and leads logically to our second recommendation.

**Recommendation 2.** It is recommended that surveyor training programs be developed to enable surveyors to consult with the facility on the development and implementation of the medical directorship, and to evaluate its effectiveness in terms of the facility's needs and capabilities.

**Comment:** The present study reveals, through its model identification phase, that considerable differences may exist between the documented arrangement for providing medical direction and its functional (behavioral) mode. These differences may not be easily discernable. It may be assumed that greater weight will be attributed by surveyors to the documented model in attempting to determine compliance with the requirement. As stated in the comment to the first recommendation, some flexibility on the part of the facility to determine its individual plan for medical direction (within certain guidelines) may help to maximize the benefits of medical direction. However, the presence of such flexibility can be expected to make more difficult the determination that minimum requirements are satisfied and suggest that specific training of surveyors is necessary. Such training might well include a component to help the surveyor identify the functional medical direction mode and those individuals within the facility who are involved in implementing medical direction. New training would be required in order to develop the capacity of surveyors to effectively consult with the skilled nursing facility in pursuit of its particular plan for medical direction. Specific training for enforcing agency personnel would also be required which would enable such agencies to reconcile approvable facility-developed medical direction plans to minimal compliance standards.

**Recommendation 3.** Future policies pertaining to medical direction should recognize that medical direction is a tri-party role including the composite activities and role partitioning of the administrator, director of nursing, and the designated medical director.

**Comment:** Both the survey and case study phases of this study indicate that the director of nursing is a key actor in the performance of medical direction. Several of the case studies also support the finding that the administrator may be substantially involved, especially during the creation of the medical director's role within the facility. Medical direction may be viewed in its functional state as the composite product of at least these three persons, although the documented model may appear to require the sole performance of a physician designated as medical director. The interrelated roles of these three persons should be identified and refined in order to gen-

erate the most effective partitioning of medical direction components. Rules, regulations, training, etc. for administrator, directors of nursing and medical directors should be designed to promote their interrelated roles in providing effective medical direction.

**Recommendation 4.** This study recommends that the Condition of Participation on Medical Direction be modified in order to classify the "review" and "coordination" activities of medical directors, and to distinguish the role of the medical director from the role of the attending physicians in the facility.

**Comment:** One of the general findings of this research is that physicians are uncertain of the specific kind of performance which is expected of them as medical directors. There appears to be considerable confusion of their roles as attending physician and as medical director within one skilled nursing facility.

With respect of the "review" functions of medical directors, some medical directors who were site-visited are uncertain about whether their role includes responsibility for a peer review mechanism. Language granting peer review privileges and immunities to the medical director is not included in the Condition of Participation, which further confuses the question. Explicit statements within the Condition of Participation are necessary in order to precisely define the medical director's "review" function. Such statements would limit the medical director's potential liability, clarify insurance issues, and promote physician acceptance of medical directorships.

# Appendix A

## Plan for data aggregation and weighting

### Data aggregation and weighting

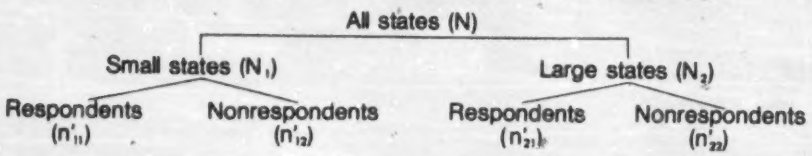
The original design was a stratified probability design using disproportionate sampling. The design was stratified by State, with a 1:2 selection rate for States having over 50 skilled nursing facilities (large States), and a 1:1 selection rate for States having 50 or fewer skilled nursing facilities (small States). Thus not all members of the *population* had an equal chance of being included in the sample although all members of any one strata had the same probability of inclusion; selection within "large States" was systematic, i.e., "psuedo-random."[1] In disproportionate sampling, the rates of inclusion vary, as is the case for the two strata in our study, and these have to be recognized when calculating population estimates and their reliability. That is done by weighting when the data for each subgroup (or individual) are multiplied by the reciprocal of its probability of being selected.[2]

In addition to the above issue, a second one developed as the response rate from our initial mail survey was low. To mitigate the potential of nonresponse bias, we conducted a telephone survey of all nonrespondents in small States and a subsample of half the nonrespondents from large States. For the purpose of weighting our sample data to give population estimates, we conceptualized the mail responses as "respondents" and the telephone responses as representative of "nonrespondents." The basic premise of this notion was that within each strata there were two subgroups of elements (facilities): those who would respond to a mail questionnaire (respondents) and those who would not (nonrespondents). Under this assumption, the *poulation* consisted of two strata, each of which in turn consisted of two subgroups. The following figure presents a schematic diagram of the population where $N_h$ represents the number of skilled nursing facilities in each strata and $N_{hi}$ represents each sub group in the population.

[1] Kish, Leslie, *Survey Sampling*, John Wiley and Sons, Inc., 1965, p. 113.

[2] Fuller, Carol, "Weighting to Adjust for Survey Nonresponse", *Public Opinion Quarterly*, Vol. 38, No. 2, pp. 239-246, Summer, 1974.

**Figure 1. Strata and subgroups employed in weighting**




Estimates of population marginals, as seen in the tables, were done using the *Statistical Package for the Social Sciences*[8] (SPSS) weighting procedure. For this purpose, weight factors were generated using the formula:

$\frac{N_{hi}}{n'_{hi}}$, where

$N_{hi}$ = the total number (population) of facilities in the $i^{th}$ subgroup of the $h^{th}$ strata, and

$n'_{hi}$ = the number of answered questionnaires (mail or telephone) from the $i^{th}$ subgroup of the $h^{th}$ strata.

The process of calculating the weight factors discussed above went as follows:

1. Total facilities in small States in the population = 417 ($N_1$)
2. Total facilities in large States in the population = 6602 ($N_2$)
3. Population of facilities = 6623 (N)
4. Mail respondents from small States = 122 ($n'_{11}$). As the selection rate was 1:1 for this subgroup, the number in the *population* for this subgroup was also 122 ($N_{11}$); consequently the assigned weight factor here = $\frac{N_{11}}{n'_{11}} = \frac{122}{122} = 1.0000$.
5. Telephone respondents (representing nonrespondents) from small States = 212 ($n'_{12}$). The size of this subgroup in the *population* was calculated as $N_1 - N_{11} = 417 - 122 = 295$ ($N_{12}$); the assigned weighted factor here = $\frac{N_{12}}{n'_{12}} = \frac{295}{212} = 1.3915$.
6. The number of questionnaires mailed to facilities in large States was 2921 (after eliminating ineligible facilities). Mail respondents from large States = 849 ($n'_{21}$), or a 29.07 percent response rate from this strata.

[8] Nie, Norman, et al., *Statistical Package for the Social Sciences*, Second Edition, McGraw-Hill Book Co., 1975, pp. 129-131.

Multiplying this rate by $N_2$ (the total number of facilities in large States) gave us a working estimate of 1804 ($N_{21}$) facilities in the population for this subgroup in the second strata. The weight factor for this subgroup was calculated as

$$\frac{N_{21}}{n'_{21}} = \frac{1804}{849} = 2.1249.$$

7. Telephone respondents (representing nonrespondents from large States) = 992 ($n'_{22}$). The estimated population figure for this subgroup was calculated as $N_2 - N_{21} = 6602 - 1804 = 4402$ ($N_{22}$). The assigned weight factor here $= \frac{N_{22}}{n'_{22}} = \frac{4402}{992} = 4.4375$.

8. The total number of facilities in the population (N) $= N_{11} + N_{12} + N_{21} + N_{22} = 122 + 295 + 1804 + 4402 = 6623$; our final sample size (n) $= n'_{11} + n'_{12} + n'_{21} + n'_{22} = 122 + 212 + 849 + 992 = 2175$.

Estimates of population means and standard errors for continuous data were calculated using a modification of a formula from Kish,[4] where:

$W_h = N_h/N$, where

$N_h$ = the number of elements in the strata (417 and 6206), and

$N$ = the population of facilities (6623).

$\overline{Y}_w = \sum_{h=1}^{2} W_h \overline{Y}_h$, where

$\overline{Y}_w$ = a weighted estimate of the population mean, and

$\overline{Y}_h$ = a weighted strata mean, where

$\overline{Y}_h = R_h \overline{Y}_{h1} + (1\text{-}R_h)\overline{Y}_{h2}$, where

$R_h$ = the percent of mailed questionnaires completed and returned (.2926 for small states and .2907 for large states); therefore

$\overline{Y}_w = W_1\overline{Y}_1 + W_2\overline{Y}_2$.

The standard error of $\overline{Y}_w$ was calculated as the square root of the variance of $\overline{Y}_w$, where.

$$\text{var}(\overline{Y}_w) = \sum_{h=1}^{2} W_h^2 \left[ \frac{R_h^2 S_{h1}^2 (1 - f_{h1})}{n'_{h1}} + \frac{(1 - R_h)^2 S_{h2}^2 (1 - f_{h2})}{n'_{h2}} \right], \text{ where}$$

$S_{hi}^2$ = the estimated population variance in the $i^{th}$ subgroup of the $h^{th}$ strata, and

$$1 - f_{hi} = 1 - \frac{n'_{hi}}{N_{hi}}.$$

Standard errors of proportions for the discrete variables were calculated using the formula:

---

[4] Kish, *op. cit.*, pp. 536-557.

$$\text{var}(p_w) = \sum_{h=1}^{s} W_h^2 \left[ \frac{R_h^2 (p_{h1})(1-p_{h1})(1-f_{h1})}{n'_{h1}-1} + \frac{(1-R_h)^2 (p_{h2})(1-p_{h2})(1-f_{h2})}{n'_{h2}-1} \right], \text{ where}$$

$p_w$ = the weighted estimate of the proportion of the total population having a specific attribute (e.g., profit vs. non-profit, urban vs. rural, etc.), and

$p_{hi}$ = the proportion having a specific attribute in the $i^{th}$ subgroup of the $h^{th}$ strata (estimated directly from sample results)

$\sqrt{\text{var}(p_w)}$ = standard error.

We remind the reader that the total number of cases, i.e., those who answered a particular item *plus* those who did not (missing cases), equals the population total of 6623; in some tables, N = 6624 due to an SPSS rounding procedure. The "valid" number of cases, i.e., those who answered a particular item, will equal 6623 (or 6624) *only if every* respondent answered that item. In other words, we chose not to assume a similar distribution of missing respondents (no answer) to that of the actual responses within any one subgroup for any one item. If we had used that assumption, there would be no missing cases in the tables and the "valid" number of cases would always equal 6623 (or 6624).

Two kinds of tables do not show population *statistics*, e.g., means, probability values, standard errors, for the following reasons: 1) It is statistically not feasible to compute statistics of this sort for cross tabulations. The usual approach here is to do the computations for each separate variable included in the cross tab. Population statistics for individual variables making up a cross tabulation are available upon request. 2) No statistics were computed for tables with a large number of missing cases as we felt the computations would be too misleading in their potential implications.

**"p" Values and Standard Errors**

The "p" values calculated for the discrete variables are *weighted estimates* of the *proportion* of the total population having a specific attribute, e.g., from Table 1, it is our estimate that 68 percent of the population of skilled nursing facilities are of the for-profit kind.

The standard error enables the reader to construct a confidence interval around a population mean or a proportion using a reliability co-efficient appropriate to the desired level of confidence, e.g., 95 percent. A 95 percent confidence interval, for example, is an interval which has a probability of .95 of containing the true population mean or proportion of the variable under discussion.

Given our estimated "p" values and standard errors, we can state with 95 percent assuredness that our confidence intervals contain the true population proportion for each variable reported in our study. Below is an example of the procedure by which confidence intervals may be calculated:

1) Estimated proportion of for-profit facilities in the population from our study = .683

2) Standard error = .009

3) Confidence level = .95

4) Reliability coefficient = 1.96

5) .009 × 1.96 (or about two standard deviations in a normally distributed population) = .01764

6) .683 + .01764 = .70064; .683 − .01764 = .66536

7) The confidence interval for this attribute = .665 − .701

8) We can state with 95 percent confidence, that this confidence interval contains the true population proportion for for-profit facilities.

## Appendix B

**Characteristics of facilities selected for model study**

| | Facility variables | | | | | | | | Medical director | Staff | | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Facility I.D. | Control | Chain | Location | HEW region | Total beds | Certified skilled beds | Hrs./Wk. as med. dir. | Attends % — # of patients | Has solo/group practice | Med. dir. for other facilities | # of physicians | Organized | Comments |
| | | | *Small/rural/profit* | | | | | | | | | | |
| 01 .... | Profit | of 4 | Very Rural | IX | 57 | 57 | 1 day per month | none | limited solo | 4, 3 of which are in 01 chain | 7 | no | Med. Dir. lives 80 miles from facility |
| 02 .... | Profit | No | Suburban | III | 57 | 57 | 1 hour | 90% | solo | None | 2 | no | |
| 03 .... | Profit | of 33 | Very Rural | X | 72 | 72 | 1 hour | 25% | partnership | None | 4 | no | 4 local physicians agreed to each serve 1 yr as med., dir. |
| | | *Category II—Small/rural/non-profit* | | | | | | | | | | | |
| 04 .... | Non-Profit | No | Rural | II | 80 | 41 | 40 hours | 99% | no | None | 2 | no | |
| | | *Small/rural/governmental* | | | | | | | | | | | |
| 05 .... | County | No | Rural | IV | 40 | 40 | 2.5 hours | 80% | emergency room physician | 1 | 6 | yes | |
| 06 .... | County | No | Rural | VIII | 46 | 25 | 10 | 100% | solo | None | 2 | yes | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | *Lage/rural/profit* | | | | | | | | | |
| 07 .... | Profit | of 5 | Rural | X | 125 | 125 | 1.5 hours | 30% | limited, in group | None | 13 no | |
| | | | *Small/urban/profit* | | | | | | | | | |
| 08 .... | Profit | of 4 | Urban | V | 50 | 19 | 40 in 4 facilities | None | retired | 3 others in chain | 12 no | |
| 09 .... | Profit | No | Urban | II | 72 | 72 | 1 hour | None | group practice | None | 11 no | Fac. has contracted for Med. Dir. with group of physicians |
| 10 .... | Profit | No | Urban | II | 80 | 80 | 2.5 hours | 27% | solo | 1 | Approx. 25 no | |
| | | | *Large/urban/profit* | | | | | | | | | |
| 11 .... | Profit | No | Urban | III | 98 | 98 | 10 hours | 70% | group. practice | None | 10 yes | |
| 12 .... | Profit | No | Urban | VI | 124 | 60 | 1 hour | 8% | solo | None | 35-40 no | |
| 13 .... | Profit | Yes, both in chain of 10 | Urban | V | 88 | 42 | 2 hours | 7% | group practice in HMO | yes, 1 | 5 no | Part of a chain of 10 facilities which has contracted with HMO group practice physicians for med. direction |
| 14 .... | Profit | | Urban | V | 74 | 74 | 2 hours | 14% | group practice in HMO | yes, 1 | 22 no | |
| 15 .... | Profit | of 2 | Urban | IV | 206 | 206 | 1 hour | 3% | group practice | 1-other facility in the chain | 175 yes* | Facility has 3 medical directors on committee |

## Appendix B *(Continued)*

**Characteristics of facilities selected for model study (continued)**

| | Facility variables | | | | | | | | Medical director | | Staff | | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Facility I.D. | Control | Chain | Location | HEW Region | Total beds | Certified skilled beds | Hrs./Wk. as med. dir. | Attends % — # of patients | Has solo/group practice | Med. dir. for other facilities | # of physicians | Organized | Comments |
| | | | Large/urban/non-profit | | | | | | | | | | |
| 16 .... | Non-Profit | No | Urban | VI | 98 | 98 | 4 hours | None | group practice | None | 31 | yes | Facility is a division of a multi-specialty medical center |
| 17 .... | Non-Profit | No | Urban | V | 99 | 99 | 2½ hours | 50-75% | group practice | None | 75 | yes | Committee of 6 medical directors |
| 18 .... | Non-Profit | No | Urban | IX | 114 | 56 | 4-6 hours | None | retired | None | 65 | no | |
| 19 .... | Non-Profit | No | Suburban | V | 128 | 64 | 4 hours | 1% | limited solo | 3 other facilities | 50 | no | |
| 20 .... | Non-Profit | No | Urban | V | 157 | 128 | 1 hour | 4% | solo | None | 126 | yes | |
| 21 .... | Non-Profit | No | Urban | I | 270 | 45 | 40 hours | 33% | On medical school faculty | None | 25 | yes | |

* JCAH/ECG Medical Staff Equivalent.

## Tables

1. The distribution of skilled nursing facilities by type of ownership ..... 16

2. The distribution of skilled nursing facilities by ownership and geographic location (N=6596) ..... 17

3. The distribution of skilled nursing facilities according to single, group, or chain affiliation ..... 17

4. The distribution of skilled nursing facilities by the year the facilities first admitted patients/residents to any level of care ..... 18

5. The distribution of skilled nursing facilities by the total number of beds in the facility ..... 18

6. The percent distribution of skilled nursing facilities by levels of care provided (N=6623) ..... 19

7. The distribution of skilled nursing facilities by the number of attending and staff physicians rendering care to skilled nursing patients in the facility ..... 19

8. The distribution of skilled nursing facilities by the type of medical staff organization ..... 20

9. The distribution of skilled nursing facilities by the extent to which the facilities have provided for medical direction (N=6623) . 21

10. The distribution of skilled nursing facilities according to the source used by the facility to recruit a medical director (N=6623) . 22

11. The distribution of skilled nursing facilities according to arrangement by the facility for the provision of medical direction .. 23

12. The distribution of skilled nursing homes by arrangement for medical direction and the time contracted for medical direction functions (N=6623) ..... 24

13. The distribution of skilled nursing facilities by the manner in which the medical director is compensated for medical direction activities (N=6623) ..... 24

14. The distribution of skilled nursing facilities by the total monthly cost for medical direction ..... 25

15. The percent distribution of skilled nursing facilities by arrangement for medical direction and total monthly cost to facility for medical direction (N=3974) ..... 26

16. The distribution of skilled nursing facilities by ownership and total monthly cost for medical direction (N=4022) ..... 26

17. The distribution of directors of nursing of skilled nursing facilities by extent of involvement in medical direction functions in the facility (N=1321) ..... 29

18. The percent distribution of skilled nursing facilities by the extent to which designated issues are identified by administrators as barriers in implementing the concept of medical direction ..... 30

## Figures

1. Major study variables and primary source of data ..... 8
2. Typology of models for medical direction ..... 32
3. Type A arrangement ..... 34
3a. Selected characteristics of facilities included in the model study which were classified as type A: one medical director, one facility ..... 35
4. Type B arrangement ..... 37
4a. Selected characteristics of facilities included in the model study which were classified as type B: one medical director, several facilities ..... 38
5. Type C arrangement ..... 39
5a. Selected characteristics of facilities included in the model study which were classified as type C: several medical directors, one facility ..... 40
6. Type D arrangement ..... 42
6a. Selected characteristics of facilities included in the model study which were classified as type D: several medical directors, several facilities ..... 43

## Current NCHSR publications

National Center for Health Services Research publications of interest to the health community are available on request to NCHSR, Publications and Information Branch, 3700 East-West Highway, Room 7-44, Hyattsville, MD 20782 (telephone: 301/436-8970). Mail requests will be facilitated by enclosure of a self-addressed, adhesive-backed mailing label. These publications also are available for sale through the National Technical Information Service (NTIS), Springfield, VA 22161 (telephone: 703/557-4650). PB and HRP numbers in parentheses are NTIS order numbers. Publications which are out of stock in NCHSR are indicated as available only from NTIS. Prices may be obtained from the NTIS order desk on request.

### Research Digests

The *Research Digest Series* provides overviews of significant research supported by NCHSR. The series describes either ongoing or completed projects directed toward high priority health services problems. Issues are prepared by the principal investigators performing the research, in collaboration with NCHSR staff. Digests are intended for an interdisciplinary audience of health services planners, administrators, legislators, and others who make decisions on research applications.

(HRA) 76-3144 Evaluation of a Medical Information System in a Community Hospital (PB 264 353)

(HRA) 76-3145 Computer-Stored Ambulatory Record (COSTAR) (PB 288 342)

(HRA) 77-3160 Program Analysis of Physician Extender Algorithm Projects (PB 264 610, available NTIS only)

(HRA) 77-3161 Changes in the Costs of Treatment of Selected Illnesses, 1951-1964-1971 (HRP 0014598)

(HRA) 77-3163 Impact of State Certificate-of-Need Laws on Health Care Costs and Utilization (PB 264 352)

(HRA) 77-3164 An Evaluation of Physician Assistants in Diagnostic Radiology (PB 266 507, available NTIS only)

(HRA) 77-3166 Foreign Medical Graduates: A Comparative Study of State Licensure Policies (PB 265 233)

(HRA) 77-3171 Analysis of Physician Price and Output Decisions (PB 273 312)

(HRA) 77-3173 Nurse Practitioner and Physician Assistant Training and Deployment (PB 271 000, available NTIS only)

(HRA) 77-3177 Automation of the Problem-Oriented Medical Record (PB 266 881, available NTIS only)
(PHS) 78-3190 Uncertainties of Federal Child Health Policies: Impact in Two States (PB 283 202)
(PHS) 79-3231 Israel Study of Socialization for Medicine
(PHS) 79-3235 AAMC Longitudinal Study of Medical School Graduates of 1960
(PHS) 79-3238 Some Effects of Quebec Health Insurance

### Research Summaries

The *Research Summary Series* provides rapid access to significant results of NCHSR-supported research projects. The series presents executive summaries prepared by the investigators. Specific findings are highlighted in a more concise form than in the final report. The *Research Summary Series* is intended for health services administrators, planners, and other research users who require recent findings relevant to immediate programs in health services.

(HRA) 77-3162 Recent Studies in Health Services Research, Vol. I (July 1974 through December 1976) (PB 266 460)
(HRA) 77-3176 Quality of Medical Care Assessment Using Outcome Measures (PB 272 455)
(HRA) 77-3183 Recent Studies in Health Services Research, Vol. II (CY 1976) (PB 279 198)
(PHS) 78-3187 Criterion Measures of Nursing Care Quality (PB 287 449)
(PHS) 78-3192 Assessing the Quality of Long-Term Care
(PHS) 78-3193 Optical Electrocardiography (PB 281 558)
(PHS) 78-3201 A National Profile of Catastrophic Illness (PB 287 291)
(PHS) 79-3230 Per-Case Reimbursement for Medical Care
(PHS) 79-3236 Nurse Practitioners and Physician Assistants: A Research Agenda

### Policy Research

The *Policy Research Series* describes findings from the research program that have major significance for policy issues of the moment. These papers are prepared by members of the staff of NCHSR or by independent investigators. The series is intended specifically to inform those in the public and private sectors who must consider, design, and implement policies affecting the delivery of health services.

(HRA) 77-3182 Controlling the Cost of Health Care (PB 266 885)

### Research Reports

The *Research Report Series* provides significant research reports in their entirety upon the completion of the project. Research Reports are developed

by the principal investigators who conducted the research, and are directed to selected users of health services research as part of a continuing NCHSR effort to expedite the dissemination of new knowledge resulting from its project support.

(HRA) 76-3143 Computer-Based Patient Monitoring Systems (PB 266 508)
(HRA) 77-3152 How Lawyers Handle Medical Malpractice Cases (HRP 0014313)
(HRA) 77-3159 An Analysis of the Southern California Arbitration Project, January 1966 through June 1975 (HRP 0012466)
(HRA) 77-3165 Statutory Provisions for Binding Arbitration of Medical Malpractice Cases (PB 264 409, available NTIS only)
(HRA) 77-3184 1960 and 1970 Spanish Heritage Population of the Southwest by County (PB 280 656, available NTIS only)
(HRA) 77-3188 Demonstration and Evaluation of a Total Hospital Information System (PB 271 079)
(HRA) 77-3189 Drug Coverage under National Health Insurance: The Policy Options (PB 272 074)
(PHS) 78-3204 Experiments in Interviewing Techniques: Field Experiments in Health Reporting (PB 276 080, available NTIS only)
(PHS) 79-3210 Telehealth Handbook: A Guide to Telecommunications Technology for Rural Health Care
(PHS) 78-3211 Emergency Medical Technician Performance Evaluation (PB 285 961)
(PHS) 79-3217-1 Evaluation of Child Abuse and Neglect Demonstration Projects, 1974-77, Vols. 1 and 2
(PHS) 78-3219 Needed Research in the Assessment and Monitoring of the Quality of Medical Care (PB 288 826)
(PHS) 79-3237 A Cost-Effective Approach to Cervical Cancer Detection
(PHS) 79-3245 Costs and Benefits of Electronic Fetal Monitoring: A Review of the Literature

## Research Management

The *Research Management Series* describes programmatic rather than technical aspects of the NCHSR research effort. Information is presented on the NCHSR goals, research objectives, and priorities; in addition, this series contains lists of grants and contracts, and administrative information on funding. Publications in this series are intended to bring basic information on NCHSR and its programs to research planners, administrators, and others who are involved with the allocation of research resources.

(PHS) 79-3220 Emergency Medical Services Systems Research Projects, 1978
(PHS) 79-3241 NCHSR Research Priorities

## Research Proceedings

The *Research Proceedings Series* extends the availability of new research announced at key conferences, symposia and seminars sponsored or supported

by NCHSR. In addition to papers presented, publications in this series include discussions and responses whenever possible. The series is intended to help meet the information needs of health services providers and others who require direct access to concepts and ideas evolving from the exchange of research results.

(HRA) 76-3138 Women and Their Health: Research Implications for a New Era (PB 264 359, available NTIS only)
(HRA) 76-3150 Intermountain Medical Malpractice (PB 268 344, available NTIS only)
(HRA) 77-3154 Advances in Health Survey Research Methods (PB 262 230)
(HRA) 77-3181 NCHSR Research Conference Report on Consumer Self-Care in Health (PB 273 811)
(HRA) 77-3186 International Conference on Drug and Pharmaceutical Services Reimbursement (PB 271 386)
(PHS) 78-3195 Emergency Medical Services: Research Methodology (PB 279 096)
(PHS) 78-3207 Health Survey Research Methods, Second Biennial Conference
(PHS) 78-3208 Drug Coverage Under National Health Insurance
(PHS) 79-3209 Health Services Research in Puerto Rico
(PHS) 79-3225-1 Emergency Medical Services Research Methodologies-Workshop I
(PHS) 78-3227 Effects of the Payment Mechanism on the Health Care Delivery System
(PHS) 79-3228 A National Conference on Health Policy, Planning, and Financing the Future of Health Care for Blacks in America
(PHS) 79-3233 Emergency Medical Services System as a Health Services Research Setting (PB 297 102)

## Program Solicitations

(HRA) 77-3196 Conference Grant Information
(PHS) 78-3224 Grants for Dissertation Research Support
(PHS) 79-3240 Grants for Research on Quality and Economy of Drug Prescribing

| BIBLIOGRAPHIC DATA SHEET | 1. Report No. NCHSR 79-107 | 2. | 3. Recipient's Accession No. |
|---|---|---|---|
| 4. Title and Subtitle<br>MEDICAL DIRECTION IN SKILLED NURSING FACILITIES: NCHSR Research Summary Series | | | 5. Report Date<br>August 1979<br>6. |
| 7. Author(s)<br>Edmund Ricci, and Edward Tessaro | | | 8. Performing Organization Rept. No. |
| 9. Performing Organization Name and Address<br>University of Pittsburgh<br>Dept. of Health Services Admn., Graduate Sch. of Public Health<br>3500 Victoria Street<br>Pittsburgh, PA 15261 (Tel.: AC 412/624-3112) | | | 10. Project/Task/Work Unit No.<br>---<br>11. Contract/Grant No.<br>HRA 230-75-0213 |
| 12. Sponsoring Organization Name and Address<br>DHEW, PHS, OASH, OHRST, Nat'l. Center for Health Services Res.<br>Publications and Information Branch, Rm. 7-44<br>3700 East-West Highway<br>Hyattsville, MD 20782 (Tel.: AC 301/436-8970) | | | 13. Type of Report & Period Covered<br>F.R. Summary<br>6/30/75 - 8/31/77<br>14. |
| 15. Supplementary Notes<br>DHEW Pub. No. (PHS) 79-3223.<br>See NTIS Rpt. PB 284 496, 368 p., for unabridged final report with similar main title. | | | |

16. Abstracts

DHEW regulations effective in 1976 require skilled nursing facilities (SNFs) to provide either a physician serving as medical director, or to have an organized medical staff. This report describes how SNFs responded, and what the effects were on their operations. Descriptive data were obtained: (1) indicating the extent to which SNFs fulfilled the requirement, the methods used, and the characteristics of facilities which were unable to comply; (2) characterizing physician medical directors and their activities; and (3) identifying and describing arrangements for medical direction. A mail/telephone survey was conducted to provide national descriptive data on how SNFs provide medical direction. Site visits were made to 21 facilities to explore, with the administrator, medical director, and nursing director, the behavioral aspects of the implementation of medical direction. Findings suggest that the vast majority of SNFs have provided some form of medical direction; that there has been limited variation in the arrangements for medical direction; that there are a number of barriers

16. Abstracts (cont'd.)

to the implementation of this concept; and that the potential exists for the concept of medical direction to be an effective force in improving patient care.

NCHSR publication of research findings does not necessarily represent approval or official endorsement by the National Center for Health Services Research or the U.S. Department of Health, Education, and Welfare.

17. ~~Key Words and Document Analysis.~~ 17a. Descriptors

17b. Identifiers/Open-Ended Terms

Health services research
Medical direction
Physician direction
Skilled nursing facilities
Nursing homes

17c. COSATI Field/Group

| 18. Availability Statement | 19. Security Class (This Report) | 21. No. of Pages |
|---|---|---|
| Releasable to the public. Available from National Technical Information Service, Springfield, VA 22161 (Tel.: AC 703/557-4650) | UNCLASSIFIED | Est.: 45 |
| | 20. Security Class (This Page) UNCLASSIFIED | 22. Price |

FORM NTIS-35 (REV. 10-73) ENDORSED BY ANSI AND UNESCO. THIS FORM MAY BE REPRODUCED USCOMM-DC 8265-P74

76



* U. S. GOVERNMENT PRINTING OFFICE : 1979 620-107/8